人 口 移 動

（電算処理 業務開発 報告書）

1987. 3.

經 濟 企 劃 院
調 査 統 計 局

일 러 두 기

이 보고서는 월간 인구이동 보고서의 전산처리 작업

시 필요한 결과표산출, DATA 수정등을 위한 보고서 입

니다.

작업처리시 자료이용이나, 이 보고서에 대한 문의사항

이 있으시면 자료처리과로 연락하여 주시기 바랍니다.

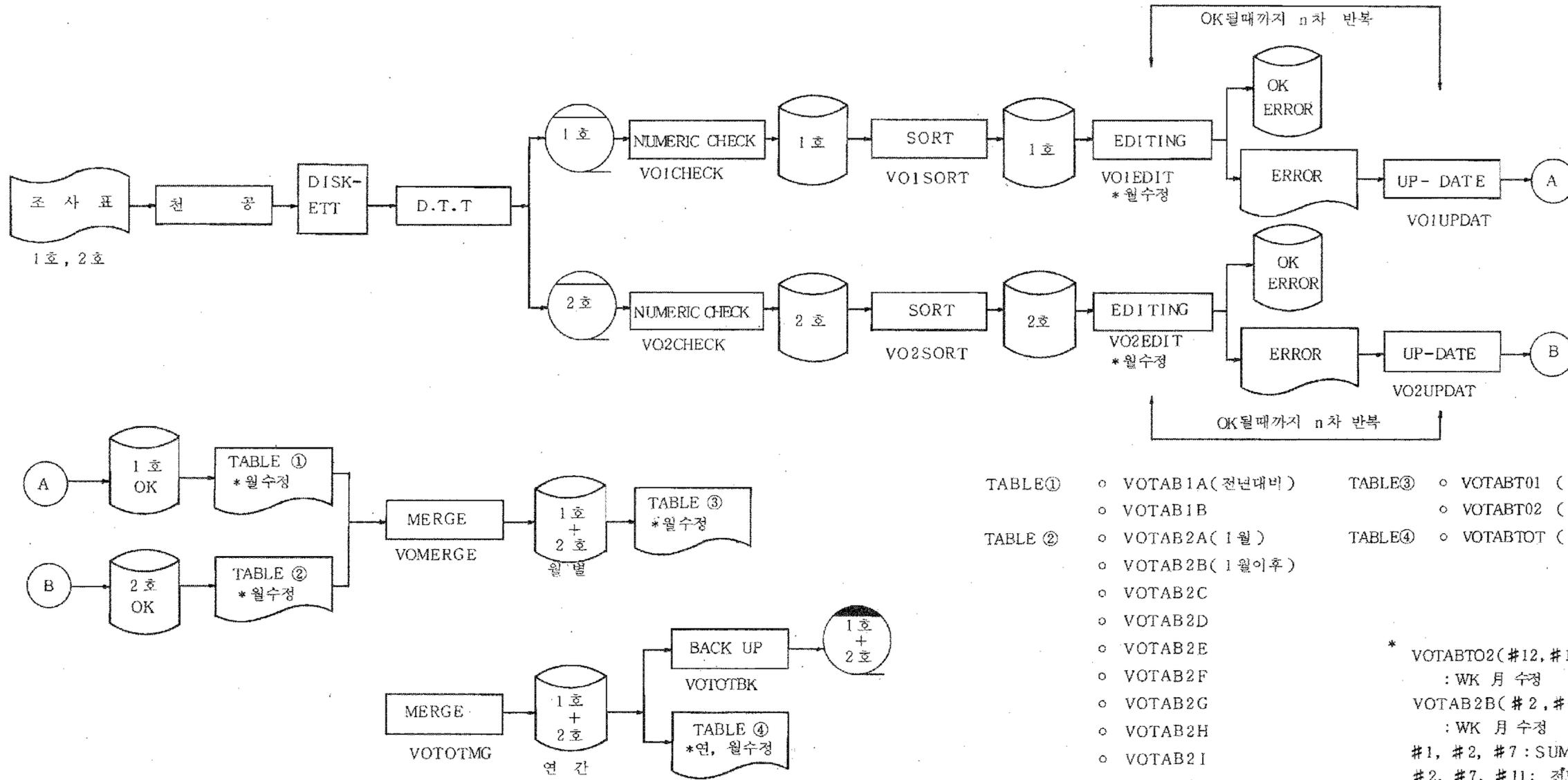자료처리과장   김   경   복

구내전화(308)   이   경   의

이   정   숙

목   차

인 구 이 동
SYSTEM FLOW CHART

인구이동 SYSTEM FLOW CHART

OK될때까지 n차 반복

조 사 표
1호, 2호

천 공

DISK-ETT

D.T.T

1호 — NUMERIC CHECK — 1호 — SORT — 1호 — EDITING — OK ERROR / ERROR — UP-DATE — A
VO1CHECK — VO1SORT — VO1EDIT *월수정 — VO1UPDAT

2호 — NUMERIC CHECK — 2호 — SORT — 2호 — EDITING — OK ERROR / ERROR — UP-DATE — B
VO2CHECK — VO2SORT — VO2EDIT *월수정 — VO2UPDAT

OK될때까지 n차 반복

A — 1호 OK — TABLE ① *월수정
B — 2호 OK — TABLE ② *월수정
MERGE — VOMERGE — 1호 + 2호 월별 — TABLE ③ *월수정

MERGE — VOTOTMG — 1호 + 2호 연간 — BACK UP — VOTOTBK — 1호 + 2호
TABLE ④ *연, 월수정

TABLE①	○ VOTAB1A(전년대비)	TABLE③	○ VOTABT01 (1월)
	○ VOTAB1B		○ VOTABT02 (1월이후)
TABLE②	○ VOTAB2A(1월)	TABLE④	○ VOTABTOT (1년 TOTAL)
	○ VOTAB2B(1월이후)		
	○ VOTAB2C		
	○ VOTAB2D		
	○ VOTAB2E		
	○ VOTAB2F		
	○ VOTAB2G		
	○ VOTAB2H		
	○ VOTAB2I		
	○ VOTAB2J		
	○ VOTAB2K		
	○ VOTAB2L(1월)		

* VOTABTO2(#12, #13, #14)
  : WK 月 수정
VOTAB2B(#2, #6)
  : WK 月 수정
#1, #2, #7 : SUMMARY
#2, #7, #11 : 전년대비

자 료 처 리 흐 름 도

자 료 처 리 흐 름 도

전입·전출 신고서

구·시·군
별 집계

인구이동 1,2호
보　　　고　　　서

통계국
인구과

자　료
처리과

연간제표산출

월별제표산출

DATA
CHECK

인구과

DATA ERROR CHECK SHEET

월별제표

연간제표

심사계
심　사

보고서보관

관리반
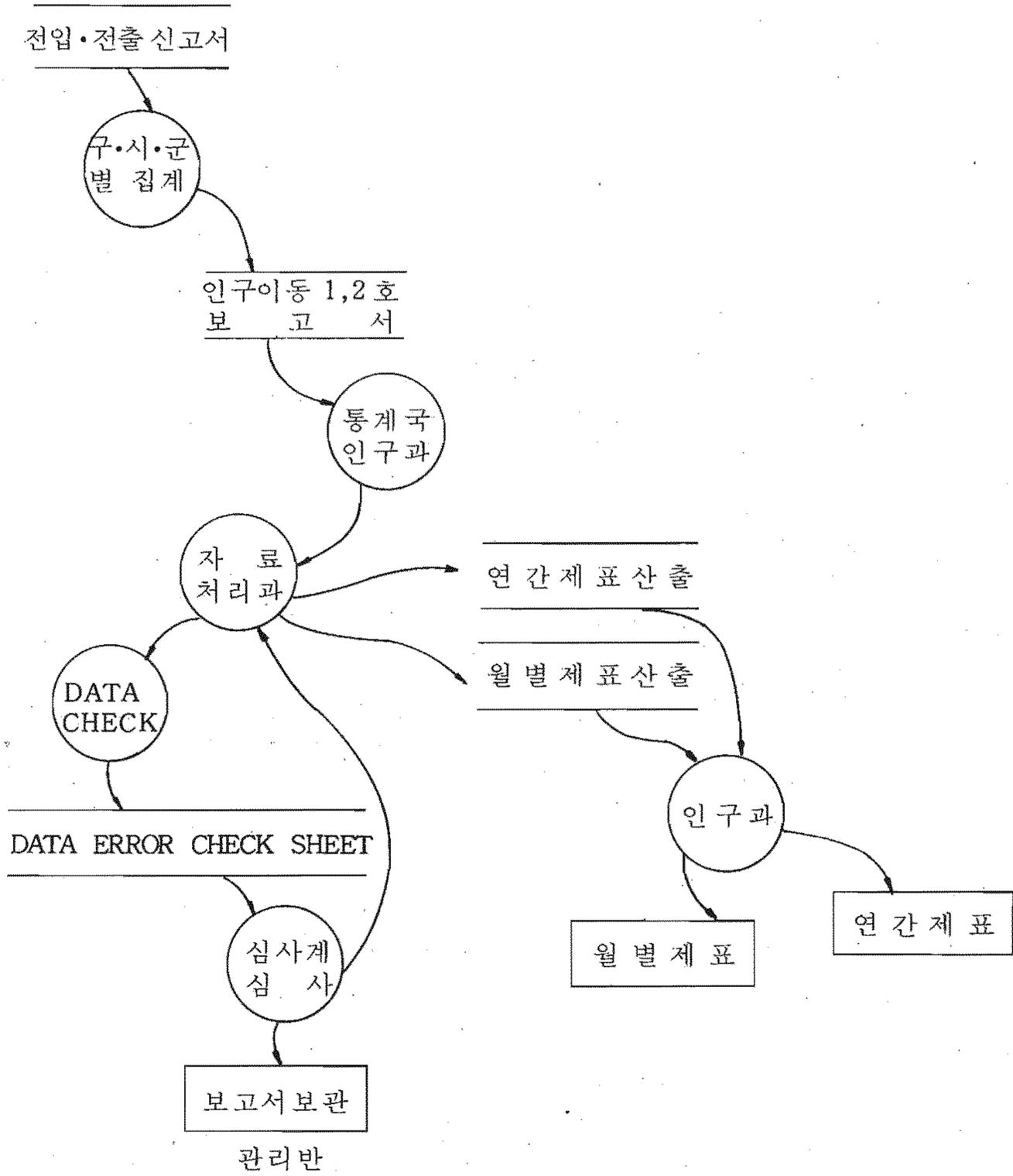
입 력
DESIGN LAYOUT

입 력
DESIGN LAYOUT

업무명 : 인 구 이 동   구분

1. 1 호 서 식	연	월	행정구역			전월말 인구수	전 입 (A)			전 출 (B)			전	
			시 도	일 련 번 호	구 시 군		총 수	남	여	총 수	남	여	도 내	도

5 · 10 · 15 · 20 · 25 · 30 · 35 · 40 · 45 · 50 · 55 · 60

2.

5 · 10 · 15 · 20 · 25 · 30 · 35 · 40 · 45 · 50 · 55 · 60

3. 2 호 서 식	연	월	행정구역			전거 주지		총 전 입 인 구			가 구 별 전 입 사 유				
			시 도	구 시 군	일 련 번 호	시 도	구 시 군	총 수	남	여	총가구수	직 업	호 적	학 업	가옥이동

5 · 10 · 15 · 20 · 25 · 30 · 35 · 40 · 45 · 50 · 55 · 60

4.

5 · 10 · 15 · 20 · 25 · 30 · 35 · 40 · 45 · 50 · 55 · 60

5.

5 · 10 · 15 · 20 · 25 · 30 · 35 · 40 · 45 · 50 · 55 · 60

AYOUT FORM

입 (C)		전 출 (D)			직권처리		출생사망		증 감				
외	국 외 기 타	도 내	도 외	국 외 기 타	등 록	말 소	출 생	사 망	증	감	금월말 인구수		1

65 70   75   80   85   90   95   100   105   110   115   120   125   130

65 70   75   80   85   90   95   100   105   110   115   120   125   130

기 타

꺄

2

65 70   75   80   85   90   95   100   105   110   115   120   125   130

65 70   75   80   85   90   95   100   105   110   115   120   125   130

65 70   75   80   85   90   95   100   105   110   115   120   125   130

천 공 요 령 서

천 공 요 령 서

COLUMN위치		FIELD 명	문 자 H.A.N	천 공 요 령
최 초	최 후			
		〈 1호서식 〉		시도별 전입 전출 및 월별
				인구수 증감현황 보고
1	2	연	N	
3	4	월	N	
5	6	시・도	A	
7	8	일련번호	N	
9	10	구・시・군	A	
11	18	전월말 인구수	N	
18	24	전입 총수	N	
25	30	〃 남	N	
31	36	〃 여	N	
37	42	전출 총수	N	LEFT 천공
43	48	〃 남	N	
49	54	〃 여	N	
55	60	전입 도내	N	
61	66	〃 도외	N	
67	72	〃 국외・기타	N	
73	78	전출 도내	N	
79	84	〃 도외	N	
85	90	〃 국외・기타	N	

COLUMN 위치		FIELD 명	문　자 H.A.N	천　공　요　령
최　초	최　후			
91	95	직권처리　등록	N	⎫
96	100	〃　　말소	N	⎪
101	105	출생	N	⎪
106	110	사망	N	⎬ LEFT 천공
111	115	증가	N	⎪
116	120	감소	N	⎪
121	128	금월말　인구수	N	⎭
129	129	서식 Code	A	1호와　2호서식의　구분　Code '1'로　천공
		〈 2호서식 〉		시도별, 월별　총전입　인구와　그의 가구별　전입사유별　인구수　현황
1	2	연	N	
3	4	월	N	
5	6	시・도	A	
7	8	구・시・군	A	
9	10	일련번호	N	LEFT 천공
11	12	전거주지 시・도	A	
13	14	〃　구・시・군	A	
15	20	총전입인구　총수	N	⎫
21	26	〃　　남	N	⎬

COLUMN위치		FIELD명	문 자 H.A.N	천 공 요 령
최초	최후			
27	32	총전입인구 여	N	
33	38	가구별 전입사유 총가구수	N	
39	44	〃 직업	N	
45	50	〃 호적	N	
51	56	〃 학업	N	LEFT 천공
57	62	〃 가옥이동	N	
63	68	〃 기타	N	
69	128	b	A	
129	129	서식 Code	A	2호의 서식 구분 Code '2'로 천공

RECORD 서식

RECORD 서 식

업무명 : 인구이동   년 월 일 작성자

COLUMN위치		FIELD명	PROGRAM중 약 기 호	FIELD 길 이	문 자 H.A.N	비 고
최 초	최 후					
		〈1호서식〉				RL : 129 BS : 3225
1	4	연, 월	YYMM	4	N	
5	6	시·도	} H1	2	A	
7	8	일련번호		2	N	
9	10	구·시·군	J1	2	A	
11	18	전월말인구수	ZZ	8	N	
18	24	전입 총수	A1	6	N	
25	30	〃 남	A2	6	N	
31	36	〃 여	A3	6	N	
37	42	전출 총수	B1	6	N	
43	48	〃 남	B2	6	N	
49	54	〃 여	B3	6	N	
55	60	전입 도내	C1	6	N	
61	66	〃 도외	C2	6	N	
67	72	〃 국외·기타	C3	6	N	
73	78	전출 도내	D1	6	N	
79	84	〃 도외	D2	6	N	
85	90	〃 국외·기타	D3	6	N	
91	95	직권처리 등록	E1	5	N	

COLUMN 위치		FIELD 명	PROGRAM중 약 기 호	FIELD 길 이	문 자 H.A.N	비 고
최 초	최 후					
96	100	직권처리 말소	E2	5	N	
101	105	출생		5	N	
106	110	사망	F2	5	N	
111	115	증가	G1	5	N	
116	120	감소	G2	5	N	
121	128	금월말인구수	HH	8	N	
129	129	서식Code	CO	1	A	
		〈2호서식〉				RL= 129 BS= 3225
1	4	연, 월	YYMM	4	N	
5	6	시·도	HX	2	A	
7	8	구·시·군		2	A	
9	10	일련번호	HY	2	N	
11	12	전거주지 시·도	J1	2	A	
13	14	〃 구·시·군	J2	2	A	
15	20	총전입 총수	D1	6	N	
21	26	〃 남	D2	6	N	
27	32	〃 여	D3	6	N	
		〈가구별전입 사유〉				
33	38	총가구수	D4	6	N	

COLUMN위치		FIELD명	PROGRAM중 약 기 호	FIELD 길 이	문 자 H.A.N	비 고
최 초	최 후					
39	44	직업	D 5	6	N	
45	50	호적	D 6	6	N	
51	56	학업	D 7	6	N	
57	62	가옥이동	D 8	6	N	
63	68	기타	D 9	6	N	
69	128	b		60	A	
129	129	서식 Code	CO	1	A	

기 계 내 용 검 사 요 령
(DATA CHECK 요령)

기 계 내 용 검 사 요 령
(DATA CHECK 요령)

CHECK항 목	정 CODE	COLUMN위치		ERROR
		최 초	최 후	기 호
〈1호서식〉				
연, 월 CHECK		1	4	****
시·도 〃		5	6	**
구·시·군 〃		9	10	**
RECORD의 누락상태		1	10	MM
RECORD의 중복상태		1	10	DD
전입 A 총수		18	24	AAAAAA
전출 B 총수		37	42	BBBBBB
전입 C 의 합		55	72	CCCCCC
전출 D 의 합		73	90	DDDDDD
증감 ERROR		111	120	EEEEE
금월말 인구수 ERROR		121	128	FFFFF
		121	128	GGGGG
		11	128	HHHHH

(DATA CHECK 요령)

업무명 : 인구이동　87년 3월　일　작성자

ERROR CODE 처　　　리	비　　고
연, 월난이　PROGRAM상의　그것과　다른　경우 시·도의　부호가　잘못　천공된　경우 구·시·군의　부호가　잘못　천공된　경우 RECORD 및　일련번호가　누락된　경우 　〃　　　　〃　　중복된　경우 전입 A의　남자와　여자의　합이　총수와　틀릴때 전입 B의　　　〃　　　　　〃 전입 C의　도내, 도외, 국외　기타의　합이　전입 A의　총수와틀릴때 전출 D의　　　〃　　　　〃　　전입 B의　　〃 전입(A)총수에　등록과　출생을　합한것에서　전출(B)와　말소, 사망을　뺏을때　양수인경우　증난에, 음수인　경우　감난의 수와　틀릴때 전월말　인구수에다　증난의　수를　더한것이　금월말　인구수 와　틀릴때 전월말.인구수에다　감난의　수를　뺀것이　금월말　인구수와 틀릴때 각　Field별　총계를　낸것이　'99'RECORD의　각난의　수 와　틀릴때	

| CHECK 항 목 | 정 CODE | COLUMN 위치 | | ERROR |
		최 초	최 후	기 호
〈 2호서식 〉				
연, 월 CHECK		1	4	****
시·도 〃		5	6	**
구·시·군 〃		7	8	**
RECORD의 누락상태		1	10	MM
RECORD의 중복상태		1	10	DD
전거주지 CHECK		11	14	****
총전입 ERROR		15	20	XXXXXX
가구별 전입사유 ERROR		33	38	YYYYYY
시부 TOTAL		15	68	AAAAAA
군부 TOTAL		15	68	BBBBBB
국외·기타 TOTAL		15	68	CCCCCC
총 TOTAL		15	68	DDDDDD
총전입의 TOTAL ERROR		15	20	EEEEEE
가구별 전입 사유의 TOTAL ERROR		33	38	FFFFFF

ERROR CODE 처　　　리	비　　　고
연, 월난이 PROGRAM상의 그것과 다른 경우 시·도의 부호가 잘못 천공된 경우 구·시·군의 부호가 잘못 천공된 경우 RECORD 및 일련번호가 누락된 경우 　　〃　　　　　〃　　　중복된 경우 전거주지의 부호가 잘못 천공된 경우 총전입의 남과여의 합이 총수와 틀릴때 가구별전입 사유의 직업, 호적, 학업, 가옥이동, 기타의 합이 총가구수와 틀릴때 시부 Code의 총합이 시부 TOTAL난과 틀릴때 군부 Code의 〃 군부 〃 〃 국외·기타 〃 〃 국외·기타 〃 〃 시부, 군부, 국외·기타의 총합이 최종 RECORD의 각난 과 틀릴때 최종 RECORD의 총전입난의 남과여의 합이 총수와 틀 릴때 최종 RECORD의 가구별 전입사유의 직업, 호적, 학업, 가 옥이동, 기타의 합이 총가구수와 틀릴때	

STEP별 특성, 기술표

STEP별 특성, 기술표

RUM NAME	STEP 명	언 어	작 성 자	처 리 개 요	추정처리 시간·분	FILE 명
A49 VOCHK	T.T.D	COBOL		D.T.T.된 DATA 를 1. NUMERIC CHECK 2. R.J(1호)	3 분	DTT TTD
A49 VOCHK	T.T.D	COBOL		D.T.T 된 DATA 를 1. UNMERIC CHECK 2. R.J(2호)	3 분	DTT TTD
A49 VOSRT	SORT	UTILITY		시·도, 구·시·군, 일련번호별 올림 차순으로 SORT	1 분	SAM FILE SORT
A 49 VOEDT	EDITING	COBOL		RECORD 및 시·도 단위로 잘못된 사 항 CHECK 〈1호서식〉	3 분	
A49 VOEDT	〃	〃		RECORD 및 시· 도 단위로 잘못 된 사항 CHECK 〈2호서식〉	3 분	

기　　술　　표

I／O 구분	RECORD FORM FB． VB	RECORD LENGTH	BLOCK SIZE	RECORD 수	DATA TA．DI．DK	DATA 보조기간	비 고
I O	UN BLOCK BLOCK	128 129	128 3225	252	TAPE DISK	최종 OUTPUT File생성 시까지 임 시보관	
I O	UN BLOCK BLOCK	80 129	80 3225	7225	TAPE DISK	〃	
I	〃	129	3225	7747	〃	〃	
	〃	129	3225	252	〃	〃	
	〃	129	3225	7225	〃	〃	

RUM NAME	STEP 명	언 어	작 성 자	처 리 개 요	추정처리 시간·분	FILE 명
A49 VOUPD	UPDATE	COBOL		OK될때까지 심사된 ERROR의 DATA를 삽입, 삭제, 교환	3분	
A49 VOUPD	〃	COBOL		OK될때까지 심사된 ERROR의 DATA를 삽입, 삭제, 교환	3분	
A49 VOTAB	TABLE	PL／I		TABLE #1 ～ TABLE #18까지의 산출작업	각5분	
A49 VOMEG	SUMMARY MERGE	PL／I UTILITY		월별 SUMMARY 1,2호 MERGE와 연간 MERGE	5분	
A49 VOBAK	BACKUP	UTILITY		1년분 총 DATA의 작업후 TAPE에 보관	3분	

I／O 구분	RECORD FORM FB．VB	RECORD LENGTH	BLOCK SIZE	RECORD 수	DATA TA．DI．DK	DATA 보조기간	비　　　고	
I.	BLOCK	129	3225	252	DISK	최종 OUTPUT File 생성 시까지 임 시 보관		
I	〃	129	3225	7225	〃	〃		
O	〃	129	3225	252 7225	〃	〃		
I	〃	129	3225	7747	〃	〃		
O	〃	129	3225	7747	TAPE	영구보관		

PROGRAM SOURCE LIST

A 49VONCI

— NUMERIC CHECK —
— R.J. —

```
//A49VONC1 JOB CLASS=A,MSGCLASS=X,TYPRUN=HOLD                        00010031
//STEP1 EXEC COBUCLG                                                 00020026
//COB.SYSIN DD *        * NUMERIC CHECK RJ-1 HO *                    00030026
        ID DIVISION.                                                 00040026
        PROGRAM-ID. IDONG-RJ1                                        00050026
        AUTHOR. LEE JEONG SOOK.                                      00060026
        ENVIRONMENT DIVISION.                                        00070026
        CONFIGURATION SECTION.                                       00080026
        SPECIAL-NAMES.                                               00090026
            C01 IS PPGE.                                             00100026
        INPUT-OUTPUT SECTION.                                        00110026
        FILE-CONTROL.                                                00120026
            SELECT TI-F ASSIGN UT-S-INPUT.                           00130026
            SELECT DS-F ASSIGN DA-S-DISKOUT.                         00140026
            SELECT P-F  ASSIGN UT-S-OUTPU2.                          00150026
        DATA DIVISION.                                               00160026
        FILE SECTION.                                                00170026
        FD  TI-F LABEL RECORD OMITTED.                               00180026
        01  TI-R.                                                    00190026
            03  YYMM PIC 9(4).                                       00200026
            03  TSI PIC 9(2).                                        00210026
            03  NN PIC 99.                                           00220026
            03  JG PIC 99.                                           00230026
            03  J11 PIC X(8).                                        00240026
            03  JA REDEFINES J11 PIC 9(8).                           00250026
            03  K1 PIC X(6).                                         00260026
            03  KA REDEFINES K1 PIC 9(6).                            00270026
            03  K2 PIC X(6).                                         00280026
            03  KB  REDEFINES K2 PIC 9(6).                           00290026
            03  K3 PIC X(6).                                         00300026
            03  KC  REDEFINES K3 PIC 9(6).                           00310026
            03  L1 PIC X(6).                                         00320026
            03  LA REDEFINES L1 PIC 9(6).                            00330026
            03  L2 PIC X(6).                                         00340026
            03  LB REDEFINES L2 PIC 9(6).                            00350026
            03  L3 PIC X(6).                                         00360026
            03  LC REDEFINES L3 PIC 9(6).                            00370026
            03  M1 PIC X(6).                                         00380026
            03  MA REDEFINES M1 PIC 9(6).                            00390026
            03  M2 PIC X(6).                                         00400026
            03  MB REDEFINES M2 PIC 9(6).                            00410026
            03  M3 PIC X(6).                                         00420026
            03  MC REDEFINES M3 PIC 9(6).                            00430026
            03  N1 PIC X(6).                                         00440026
            03  NA REDEFINES N1 PIC 9(6).                            00450026
            03  N2 PIC X(6).                                         00460026
            03  NB REDEFINES N2 PIC 9(6)..                           00470026
            03  N3 PIC X(6).                                         00480026
            03  NC REDEFINES N3 PIC 9(6).                            00490026
            03  X1 PIC X(5).                                         00500026
            03  XQ REDEFINES X1 PIC 9(5).                            00510026
            03  X2 PIC X(5).                                         00520026
            03  XR REDEFINES X2 PIC 9(5).                            00530026
            03  Y1 PIC X(5).                                         00540026
            03  YQ REDEFINES Y1 PIC 9(5).                            00550026
            03  Y2 PIC X(5).                                         00560026
            03  YR REDEFINES Y2 PIC 9(5).                            00570026
            03  Z1 PIC X(5).                                         00580026
            03  ZQ REDEFINES Z1 PIC 9(5).                            00590026
            03  Z2 PIC X(5).                                         00600026
            03  ZR REDEFINES Z2 PIC 9(5).                            00610026
            03  J22 PIC X(8).                                        00620026
```

```cobol
    03  JB REDEFINES J22 PIC 9(8).                        00630026
FD  P-F LABEL RECORD OMITTED.                             00640026
01  P-R PIC X(132).                                       00650026
FD  DS-F LABEL RECORD STANDARD BLOCK CONTAINS 25 RECORDS. 00660026
01  DS-R.                                                 00670026
    02  SYW PIC 9(4).                                     00680026
    02  JOSA-S.                                           00690026
        03  SSI PIC 99.                                   00700026
        03  SNN PIC 99.                                   00710026
        03  SGU PIC 99.                                   00720026
    02  SPU PIC 9(8).                                     00730026
    02  SJEIP.                                            00740026
        03  SCH1 PIC 9(6).                                00750026
        03  SMAN1 PIC 9(6).                               00760026
        03  SWOM1 PIC 9(6).                               00770026
    02  SJECH.                                            00780026
        03  SCHH1 PIC 9(6).                               00790026
        03  SMAH1 PIC 9(6).                               00800026
        03  SWOH1 PIC 9(6).                               00810026
    02  SJEIP2.                                           00820026
        03  SCH2 PIC 9(6).                                00830026
        03  SMAN2 PIC 9(6).                               00840026
        03  SWOM2 PIC 9(6).                               00850026
    02  SJECH2.                                           00860026
        03  SCHH2 PIC 9(6).                               00870026
        03  SMAH2 PIC 9(6).                               00880026
        03  SWOH2 PIC 9(6).                               00890026
    02  CHERI.                                            00900026
        03  DUNGR PIC 9(5).                               00910026
        03  MALSO PIC 9(5).                               00920026
    02  CHULSA.                                           00930026
        03  CHULQA PIC 9(5).                              00940026
        03  SAMANG PIC 9(5).                              00950026
    02  JUNGAM.                                           00960026
        03  JUNG PIC 9(5).                                00970026
        03  GAM PIC 9(5).                                 00980026
    02  KUMPU PIC 9(8).                                   00990026
    02  OCO PIC 9.                                        01000026
WORKING-STORAGE SECTION.                                  01010026
77  ER PIC 9(5) VALUE 0.                                  01020026
77  CC PIC 9(5) VALUE 0.                                  01030026
77  SW PIC 9 VALUE 0.                                     01040026
77  OK PIC 9(5) VALUE 0.                                  01050026
01  ER-R.                                                 01060026
    02  EYW PIC X(4).                                     01070026
    02  EEE PIC XX.                                       01080026
    02  ENN PIC XX.                                       01090026
    02  EGU PIC XX.                                       01100026
    02  EPU PIC X(8).                                     01110026
    02  ECH1 PIC X(6).                                    01120026
    02  EMAN1 PIC X(6).                                   01130026
    02  EWOM1 PIC X(6).                                   01140026
    02  ECHH1 PIC X(6).                                   01150026
    02  EMAH1 PIC X(6).                                   01160026
    02  EWOH1 PIC X(6).                                   01170026
    02  ECH2 PIC X(6).                                    01180026
    02  EMAN2 PIC X(6).                                   01190026
    02  EWOM2 PIC X(6).                                   01200026
    02  ECHH2 PIC X(6).                                   01210026
    02  EMAH2 PIC X(6).                                   01220026
    02  EWOH2 PIC X(6).                                   01230026
    02  EUNGR PIC X(5).                                   01240026
```

```
        02  EALSO PIC X(5).                                         01250026
        02  EHULQA PIC.X(5).                                        01260026
        02  EAMANG PIC X(5).                                        01270026
        02  EUNG PIC X(5).                                          01280026
        02  EAM PIC X(5).                                           01290026
        02  EUMPU PIC X(8).                                         01300026
    01  EX-R.                                                       01310026
        03  EX PIC X(26) VALUE "** NUMERIC CHECK ERROR   **".       01320026
    01  COL-R.                                                      01330026
        03  COL PIC X(120) VALUE "....5...10...15...20...25...30...35 01340026
    -       "..40...45...50...55...60...65...70...75...80...85...90.. 01350026
    -       ".95..100..105..110..115..120".                         01360026
        03  COK PIC X(8) VALUE "..125...".                          01370026
    PROCEDURE DIVISION.                                             01380026
        OPEN INPUT TI-F OUTPUT  DS-F P-F.                           01390026
        MOVE SPACE TO P-R.                                          01400026
        MOVE SPACE TO ER-R.                                         01410026
        WRITE P-R AFTER ADVANCING PPGE.                             01420026
        MOVE EX-R TO P-R.                                           01430026
        WRITE P-R AFTER ADVANCING 2.                               01440026
        MOVE SPACE TO P-R.                                          01450026
    READ-RTN.                                                       01460026
        READ TI-F AT END GO TO DIS-RTN.                            01470026
        ADD 1 TO CC.                                                01480026
        IF YYMM NOT NUMERIC MOVE "****" TO EYW  MOVE 1 TO SW        01490026
        GO TO A1.                                                   01500026
    A1. IF TSI NOT NUMERIC MOVE "**" TO EEE MOVE 1 TO SW            01510026
        GO TO A2.                                                   01520026
    A2. IF NN NOT NUMERIC MOVE "**" TO ENN MOVE 1 TO SW             01530026
        GO TO A3.                                                   01540026
    A3. IF JG NOT NUMERIC MOVE "**" TO EGU MOVE 1 TO SW             01550026
        GO TO A4.                                                   01560026
    A4. EXAMINE J11 TALLYING ALL SPACE REPLACING BY 0.             01570026
        IF JA NOT NUMERIC MOVE  "********" TO EPU MOVE 1 TO SW      01580026
        GO TO YA.                                                   01590026
        COMPUTE SPU = JA / 10 ** TALLY.                            01600026
    YA. EXAMINE K1 TALLYING ALL SPACE REPLACING BY 0.             01610026
        IF KA NOT NUMERIC MOVE "******" TO ECH1 MOVE 1 TO SW       01620026
        GO TO YB.                                                   01630026
        COMPUTE SCH1 = KA / 10 ** TALLY.                          01640026
    YB. EXAMINE K2 TALLYING ALL SPACE REPLACING BY 0.             01650026
        IF KB NOT NUMERIC MOVE "******" TO EMAN1 MOVE 1 TO SW      01660026
        GO TO Y3.                                                   01670026
        COMPUTE SMAN1 = KB / 10 ** TALLY.                         01680026
    Y3. EXAMINE K3 TALLYING ALL SPACE REPLACING BY 0.             01690026
        IF KC NOT NUMERIC MOVE "******" TO EWOM1 MOVE 1 TO SW      01700026
        GO TO Y4.                                                   01710026
        COMPUTE SWOM1 = KC / 10 ** TALLY.                         01720026
    Y4. EXAMINE L1 TALLYING ALL SPACE REPLACING BY 0.             01730026
        IF LA NOT NUMERIC MOVE "******" TO ECHH1 MOVE 1 TO SW      01740026
        GO TO Y5.                                                   01750026
        COMPUTE SCHH1 = LA / 10 ** TALLY.                         01760026
    Y5. EXAMINE L2 TALLYING ALL SPACE REPLACING BY 0.             01770026
        IF LB NOT NUMERIC MOVE "******" TO EMAH1 MOVE 1 TO SW      01780026
        GO TO Y6.                                                   01790026
        COMPUTE SMAH1 = LB / 10 ** TALLY.                         01800026
    Y6. EXAMINE L3 TALLYING ALL SPACE REPLACING BY 0.             01810026
        IF LC NOT NUMERIC MOVE "******" TO EWOH1 MOVE 1 TO SW      01820026
        GO TO Y7.                                                   01830026
        COMPUTE SWOH1 = LC / 10 ** TALLY.                         01840026
    Y7. EXAMINE M1 TALLYING ALL SPACE REPLACING BY 0.             01850026
        IF MA NOT NUMERIC MOVE "******" TO ECH2 MOVE 1 TO SW       01860026
```

```
        GO TO Y8.                                                      01870026
        COMPUTE SCH2 = MA / 10 ** TALLY.                               01880026
Y8.  EXAMINE M2 TALLYING ALL SPACE REPLACING BY 0.                     01890026
        IF MB NOT NUMERIC MOVE "*****" TO EMAN2 MOVE 1 TO SW           01900026
        GO TO Y9.                                                      01910026
        COMPUTE SMAN2 = MB / 10 ** TALLY.                              01920026
Y9.  EXAMINE M3 TALLYING ALL SPACE REPLACING BY 0.                     01930026
        IF MC NOT NUMERIC MOVE "*****" TO EWOM2 MOVE 1 TO SW           01940026
        GO TO ZA.                                                      01950026
        COMPUTE SWOM2 = MC / 10 ** TALLY.                              01960026
ZA.  EXAMINE N1 TALLYING ALL SPACE REPLACING BY 0.                     01970026
        IF NA NOT NUMERIC MOVE "*****" TO ECHH2 MOVE 1 TO SW           01980026
        GO TO ZB.                                                      01990026
        COMPUTE SCHH2 = NA / 10 ** TALLY.                              02000026
ZB.  EXAMINE N2 TALLYING ALL SPACE REPLACING BY 0.                     02010026
        IF NB NOT NUMERIC MOVE "*****" TO EMAH2 MOVE 1 TO SW           02020026
        GO TO Z3.                                                      02030026
        COMPUTE SMAH2 = NB / 10 ** TALLY.                              02040026
Z3.  EXAMINE N3 TALLYING ALL SPACE REPLACING BY 0.                     02050026
        IF NC NOT NUMERIC MOVE "*****" TO EWOH2 MOVE 1 TO SW           02060026
        GO TO Z4.                                                      02070026
        COMPUTE SWOH2 = NC / 10 ** TALLY.                              02080026
Z4.  EXAMINE X1 TALLYING ALL SPACE REPLACING BY 0.                     02090026
        IF XQ NOT NUMERIC MOVE "*****" TO EUNGR MOVE 1 TO SW           02100026
        GO TO Z5.                                                      02110026
        COMPUTE DUNGR = XQ / 10 ** TALLY.                              02120026
Z5.  EXAMINE X2 TALLYING ALL SPACE REPLACING BY 0.                     02130026
        IF XR NOT NUMERIC MOVE "*****" TO EALSO MOVE 1 TO SW           02140026
        GO TO Z6.                                                      02150026
        COMPUTE MALSO = XR / 10 ** TALLY.                              02160026
Z6.  EXAMINE Y1 TALLYING ALL SPACE REPLACING BY 0.                     02170026
        IF YQ NOT NUMERIC MOVE "*****" TO EALSO MOVE 1 TO SW           02180026
        GO TO Z7.                                                      02190026
        COMPUTE CHULQA = YQ / 10 ** TALLY.                             02200026
Z7.  EXAMINE Y2 TALLYING ALL SPACE REPLACING BY 0.                     02210026
        IF YR NOT NUMERIC MOVE "*****" TO EAMANG MOVE 1 TO SW          02220026
        GO TO Z8.                                                      02230026
        COMPUTE SAMANG = YR / 10 ** TALLY.                             02240026
Z8.  EXAMINE Z1 TALLYING ALL SPACE REPLACING BY 0.                     02250026
        IF ZQ NOT NUMERIC MOVE "*****" TO EUNG MOVE 1 TO SW            02260026
        GO TO Z9.                                                      02270026
        COMPUTE JUNG = ZQ / 10 ** TALLY.                               02280026
Z9.  EXAMINE Z2 TALLYING ALL SPACE REPLACING BY 0.                     02290026
        IF ZR NOT NUMERIC MOVE "*****" TO EAM MOVE 1 TO SW             02300026
        GO TO XZ.                                                      02310026
        COMPUTE GAM = ZR / 10 ** TALLY.                                02320026
XZ.  EXAMINE J22 TALLYING ALL SPACE REPLACING BY 0.                    02330026
        IF JB NOT NUMERIC MOVE "*******" TO EUMPU MOVE 1 TO SW         02340026
        GO TO ERR-CHECK.                                               02350026
        COMPUTE KUMPU = JB / 10 ** TALLY.                              02360026
ERR-CHECK.                                                             02370026
        IF SW = 1 GO TO ER-RTN.                                        02380026
        ADD 1 TO OK.                                                   02390026
        MOVE YYMM TO SYW.                                              02400026
        MOVE TSI TO SSI.                                               02410026
        MOVE NN TO SNN.                                                02420026
        MOVE JG TO SGU.                                                02430026
        MOVE "1" TO OCO.                                               02440026
        WRITE DS-R.                                                    02450026
        GO TO READ-RTN.                                                02460026
ER-RTN.                                                                02470026
        ADD 1 TO ER.                                                   02480026
```

```
            MOVE COL-R TO P-R.                                        02490026
            WRITE P-R AFTER ADVANCING 2.                             02500026
            MOVE SPACE TO P-R.                                       02510026
            MOVE TI-R TO P-R.                                        02520026
            WRITE P-R AFTER ADVANCING 2.                             02530026
            MOVE SPACE TO P-R.                                       02540026
            MOVE ER-R TO P-R.                                        02550026
            WRITE P-R AFTER ADVANCING 1.                             02560026
            MOVE SPACE TO P-R.                                       02570026
            MOVE 0 TO SW.                                            02580026
            MOVE SPACE TO ER-R.                                      02590026
            GO TO READ-RTN.                                          02600026
        DIS-RTN.                                                     02610026
            DISPLAY " CHONG RECORD CC = " CC.                        02620026
            DISPLAY " ERROR RECORD ER = " ER.                        02630026
            DISPLAY " OK RECORD OK = " OK.                           02640026
            CLOSE TI-F DS-F P-F.                                     02650026
            STOP RUN.                                                02660026
/*                                                                   02670026
//GO.INPUT DD UNIT=TAPE,DSN=EDIT53,VOL=SER=TN5381,                   02680031
//         LABEL=(,NL),DISP=(OLD,KEEP),                              02690026
//         DCB=(LRECL=128,RECFM=FB,BLKSIZE=128)                      02700026
//GO.DISKOUT DD DSN=A49.VO.WEG(DECM1),UNIT=DISK,DISP=(OLD,KEEP),     02710031
//         VOL=SER=BOS242                                            02720026
//GO.OUTPU2 DD SYSOUT=*                                              02730026
//GO.SYSOUT DD SYSOUT=*                                              02740026
//GO.SYSPRINT DD SYSOUT=*                                            02750026
/*                                                                   02760026
//                                                                   02770026
```

```
//A49VONC2 JOB CLASS=A,MSGCLASS=X,USER=A49,TYPRUN=HOLD              00010037
//STEP1 EXEC COBUCLG,PARM=(STATE,CLIST,FLOW,NUM,XREF,DMAP)          00020028
//COB.SYSIN DD *      * 2 HO - NUMERIC CHECK *                      00030028
       ID DIVISION.                                                 00040028
       PROGRAM-ID. IDONG-RJ1.                                       00050028
       AUTHOR. LEE JEONG SOOK.                                      00060028
       ENVIRONMENT DIVISION.                                        00070028
       CONFIGURATION SECTION.                                       00080028
       SPECIAL-NAMES.                                               00090028
           CO1 IS PPGE.                                             00100028
       INPUT-OUTPUT SECTION.                                        00110028
       FILE-CONTROL.                                                00120028
           SELECT TI-F ASSIGN UT-S-INPUT.                          00130028
           SELECT DS-F ASSIGN DA-S-DISKOUT.                        00140028
           SELECT P-F  ASSIGN UT-S-OUTPU2.                         00150028
       DATA DIVISION.                                               00160028
       FILE SECTION.                                                00170028
       FD  TI-F LABEL RECORD OMITTED.                               00180028
       01  TI-R.                                                    00190028
           03  YYM PIC 9(4).                                        00200028
           03  TSI PIC 9(4).                                        00210028
           03  NN PIC 99.                                           00220028
           03  JS PIC XX.                                           00230028
           03  JX REDEFINES JS PIC 99.                              00240028
           03  JG PIC XX.                                           00250028
           03  JY REDEFINES JG PIC 99.                              00260028
           03  CHH PIC X(6).                                        00270028
           03  CRH REDEFINES CHH PIC 9(6).                          00280028
           03  MAN PIC X(6).                                        00290028
           03  MRN REDEFINES MAN PIC 9(6).                          00300028
           03  WMA PIC X(6).                                        00310028
           03  WRA REDEFINES WMA PIC 9(6).                          00320028
           03  GAGU PIC X(6).                                       00330028
           03  GRGU REDEFINES GAGU PIC 9(6).                        00340028
           03  JIKK PIC X(6).                                       00350028
           03  JRKK REDEFINES JIKK PIC 9(6).                        00360028
           03  HOJE PIC X(6).                                       00370028
           03  HRJE REDEFINES HOJE PIC 9(6).                        00380028
           03  HAKE PIC X(6).                                       00390028
           03  HRKE REDEFINES HAKE PIC 9(6).                        00400028
           03  MOVV PIC X(6).                                       00410028
           03  MRVV REDEFINES MOVV PIC 9(6).                        00420028
           03  GITA PIC X(6).                                       00430028
           03  GRTA REDEFINES GITA PIC 9(6).                        00440028
           03  F PIC X(12).                                         00450028
       FD  DS-F LABEL RECORD STANDARD BLOCK CONTAINS 25 RECORDS.    00460028
       01  DS-R.                                                    00470028
           03  SYM PIC 9(4).                                        00480028
           03  SSI PIC 9(4).                                        00490028
           03  SNN PIC 99.                                          00500028
           03  SJS PIC 99.                                          00510028
           03  SJG PIC 99.                                          00520028
           03  SCH PIC 9(6).                                        00530028
           03  SMA PIC 9(6).                                        00540028
           03  SWA PIC 9(6).                                        00550028
           03  SGAG PIC 9(6).                                       00560028
           03  SJIK PIC 9(6).                                       00570028
           03  SHOJ PIC 9(6).                                       00580028
           03  SHAK PIC 9(6).                                       00590028
           03  SMOV PIC 9(6).                                       00600028
           03  SGIT PIC 9(6).                                       00610028
           03  GNA PIC X(60).                                       00620028
```

— 54 —

```
        03  OCO PIC 9.                                          00630028
FD  P-F LABEL RECORD OMITTED.                                   00640028
01  P-R PIC X(132).                                             00650028
WORKING-STORAGE SECTION.                                        00660028
77  SW PIC 9 VALUE 0.                                           00670028
77  DQ PIC 9(2) VALUE 0.                                        00680028
77  ER PIC 9(5) VALUE 0.                                        00690028
77  CC PIC 9(5) VALUE 0.                                        00700028
77  OK PIC 9(5) VALUE 0.                                        00710028
01  ER-R.                                                       00720028
        03  EYM PIC X(4).                                       00730028
        03  EEE PIC X(4).                                       00740028
        03  ENN PIC XX.                                         00750028
        03  EJS PIC XX.                                         00760028
        03  EJG PIC XX.                                         00770028
        03  ECH PIC X(6).                                       00780028
        03  EMA PIC X(6).                                       00790028
        03  EWA PIC X(6).                                       00800028
        03  EGAG PIC X(6).                                      00810028
        03  EJIK PIC X(6).                                      00820028
        03  EHOJ PIC X(6).                                      00830028
        03  EHAK PIC X(6).                                      00840028
        03  EMOV PIC X(6).                                      00850028
        03  EGIT PIC X(6).                                      00860028
        03  F    PIC X(12).                                     00870028
01  EX-R.                                                       00880028
        03  EX PIC X(26) VALUE "** NUMERIC CHECK ERROR  **".    00890028
01  COL-R .                                                     00900028
        03  COL PIC X(80) VALUE "....5...10...15...20...25...30...35.  00910028
        "..40...45...50...55...60...65...70...75...80".         00920028
PROCEDURE DIVISION.                                             00930028
        OPEN INPUT TI-F OUTPUT DS-F  P-F.                       00940028
        MOVE SPACE TO P-R.                                      00950028
        MOVE SPACE TO  ER-R.                                    00960028
        WRITE P-R AFTER ADVANCING PPGE.                         00970028
        MOVE EX-R TO P-R.                                       00980028
        WRITE P-R AFTER ADVANCING 2.                            00990028
        MOVE SPACE TO P-R.                                      01000028
READ-RTN.                                                       01010028
        READ TI-F AT END GO TO DIS-RTN.                         01020028
        EXAMINE JS TALLYING ALL SPACE REPLACING BY 0.           01030028
        EXAMINE JG TALLYING ALL SPACE REPLACING BY 0.           01040028
        ADD 1 TO CC.                                            01050028
        IF YYM NOT NUMERIC MOVE "****" TO EYM  MOVE 1 TO SW     01060028
        GO TO A1.                                               01070028
A1. IF TSI NOT NUMERIC MOVE "****" TO EEE MOVE 1 TO SW          01080028
        GO TO A2.                                               01090028
A2. IF NN NOT NUMERIC MOVE "**" TO ENN MOVE 1 TO SW             01100028
        GO TO A3.                                               01110028
A3. IF JS NOT NUMERIC MOVE "**" TO EJS MOVE 1 TO SW             01120028
        GO TO A4.                                               01130028
A4. IF JG NOT NUMERIC MOVE "**" TO EJG MOVE 1 TO SW             01140028
        GO TO A5.                                               01150028
A5. EXAMINE CHH TALLYING ALL SPACE REPLACING BY 0.             01160028
        IF CRH NOT NUMERIC MOVE "******" TO ECH MOVE 1 TO SW    01170028
        GO TO YA.                                               01180028
        COMPUTE SCH = CRH / 10 ** TALLY.                        01190028
YA. EXAMINE MAN TALLYING ALL SPACE REPLACING BY 0.             01200028
        IF MRN NOT NUMERIC MOVE "******" TO EMA MOVE 1 TO SW    01210028
        GO TO YB.                                               01220028
        COMPUTE SMA = MRN / 10 ** TALLY.                        01230028
YB. EXAMINE WMA TALLYING ALL SPACE REPLACING BY 0.             01240028
```

— 55 —

```
        IF WRA NOT NUMERIC MOVE "*****" TO EWA MOVE 1 TO SW          01250028
        GO TO Y3.                                                      01260028
        COMPUTE SWA = WRA / 10 ** TALLY.                               01270028
    Y3. EXAMINE GAGU TALLYING ALL SPACE REPLACING BY 0.                01280028
        IF GRGU NOT NUMERIC MOVE "*****" TO EGAG MOVE 1 TO SW          01290028
        GO TO Y4.                                                      01300028
        COMPUTE SGAG = GRGU / 10 ** TALLY.                             01310028
    Y4. EXAMINE JIKK TALLYING ALL SPACE REPLACING BY 0.                01320028
        IF JRKK NOT NUMERIC MOVE "*****" TO EJIK MOVE 1 TO SW          01330028
        GO TO Y5.                                                      01340028
        COMPUTE SJIK = JRKK / 10 ** TALLY.                             01350028
    Y5. EXAMINE HOJE TALLYING ALL SPACE REPLACING BY 0.                01360028
        IF HRJE NOT NUMERIC MOVE "*****" TO EHOJ MOVE 1 TO SW          01370028
        GO TO Y6.                                                      01380028
        COMPUTE SHOJ = HRJE / 10 ** TALLY.                             01390028
    Y6. EXAMINE HAKE TALLYING ALL SPACE REPLACING BY 0.                01400028
        IF HRKE NOT NUMERIC MOVE "*****" TO EHAK MOVE 1 TO SW          01410028
        GO TO Y7.                                                      01420028
        COMPUTE SHAK = HRKE / 10 ** TALLY.                             01430028
    Y7. EXAMINE MOVV TALLYING ALL SPACE REPLACING BY 0.                01440028
        IF MRVV NOT NUMERIC MOVE "*****" TO EMOV MOVE 1 TO SW          01450028
        GO TO Y8.                                                      01460028
        COMPUTE SMOV = MRVV / 10 ** TALLY.                             01470028
    Y8. EXAMINE GITA TALLYING ALL SPACE REPLACING BY 0.                01480028
        IF GRTA NOT NUMERIC MOVE "*****" TO EGIT MOVE 1 TO SW          01490028
        GO TO ERR-CHECK.                                               01500028
        COMPUTE SGIT = GRTA / 10 ** TALLY.                             01510028
    ERR-CHECK.                                                         01520028
        IF SW = 1 GO TO ER-RTN.                                        01530028
        ADD 1 TO OK.                                                   01540028
        MOVE YYM TO SYM.                                               01550028
        MOVE TSI TO SSI.                                               01560028
        MOVE NN  TO SNN.                                               01570028
        MOVE JX  TO SJS.                                               01580028
        MOVE JY  TO SJG.                                               01590028
        MOVE ALL "0" TO ONA.                                           01600028
        MOVE "2" TO OCO.                                               01610028
        WRITE DS-R.                                                    01620028
        GO TO READ-RTN.                                                01630028
    ER-RTN.                                                            01640028
        ADD 1 TO ER.                                                   01650028
        MOVE COL-R TO P-R.                                             01660028
        WRITE P-R AFTER ADVANCING 2.                                   01670028
        MOVE SPACE TO P-R.                                             01680028
        MOVE TI-R TO P-R.                                              01690028
        WRITE P-R AFTER ADVANCING 2.                                   01700028
        MOVE SPACE TO P-R.                                             01710028
        MOVE ER-R TO P-R.                                              01720028
        WRITE P-R AFTER ADVANCING 1.                                   01730028
        MOVE SPACE TO P-R.                                             01740028
        MOVE 0 TO SW.                                                  01750028
        MOVE SPACE TO ER-R.                                            01760028
        GO TO READ-RTN.                                                01770028
    DIS-RTN.                                                           01780028
        DISPLAY " CHONG RECORD CC = " CC.                              01790028
        DISPLAY " ERROR RECORD ER = " ER.                             01800028
        DISPLAY " OK RECORD OK = " OK.                                 01810023
        CLOSE TI-F DS-F P-F.                                           01820028
        STOP RUN.                                                      01830028
/*                                                                     01840028
//GO.INPUT DD UNIT=TAPE,DSN=SDFGH,VOL=SER=THXXXX,DISP=(OLD,KEEP),      01850037
//            LABEL=(,NL),                                             01860028
```

```
//        DCB=(BLKSIZE=80,RECFM=FB,LRECL=80)                              01870028
//GO.DISKOUT   DD DSN=A49.VO.WEG(MACHA),UNIT=SYSDA,DISP=(OLD,KEEP),       01880037
//          VOL=SER=BOS242                                                01890028
//GO.OUTPU2 DD SYSOUT=*                                                   01900028
//GO.SYSOUT DD SYSOUT=*                                                   01910028
//GO.SYSPRINT DD SYSOUT=*                                                 01920028
/*                                                                        01930028
//                                                                        01940028
```

A49VOWEM

— EDITING —
— SORT —

```
//A49VOWEM  JOB  CLASS=A,MSGCLASS=X,NOTIFY=A49              00010044
//STEP1     EXEC PGM=SORT,PARM='SIZE(MAX)'                 00020040
//SYSOUT    DD  SYSOUT=*                                   00030032
//SYSPRINT  DD  SYSOUT=*                                   00040032
//SORTIN    DD  DISP=(OLD,KEEP),UNIT=DISK,DSN=A49.VO.WEG(DECM4),  00050091
//              DCB=(LRECL=129,RECFM=FB,BLKSIZE=3225),     00060039
//              VOL=SER=BOS242                             00070045
//SORTOUT   DD  DISP=(OLD,KEEP),UNIT=DISK,DSN=A49.VO.WEG(DECM3),  00080091
//              DCB=(LRECL=129,RECFM=FB,BLKSIZE=3225),     00090039
//              VOL=SER=BOS242                             00100045
//SORTWK01  DD  UNIT=DISK,SPACE=(CYL,(10,1)),VOL=SER=SORTWK  00110039
//SYSIN     DD  *                                          00120020
 SORT FIELDS=(5,2,A,7,2,A,9,2,A),FORMAT=CH                 00130024
/*                                                         00140040
//STEP2 EXEC COBUCLG,PARM=('FLOW,NUM,XREF,DMAP')           00150029
//*COB.SYSOUT    DD SYSOUT=*                               00160080
//*COB.SYSPRINT DD  SYSOUT=X                               00170087
//COB.SYSIN DD *        * 1 HO - 8 WOL EDITING *           00180046
       ID DIVISION.                                        00190024
       PROGRAM-ID. IDONG-EDITING.                          00200024
       AUTHOR. LEE JEONG SOOK.                             00210024
       ENVIRONMENT DIVISION.                               00220000
       CONFIGURATION SECTION.                              00230010
       SPECIAL-NAMES.                                      00240020
           C01 IS PPGE.                                    00250024
       INPUT-OUTPUT SECTION.                               00260024
       FILE-CONTROL.                                       00270024
           SELECT DI-F ASSIGN DA-S-INPUT.                  00280024
           SELECT DO-F ASSIGN DA-S-OUTPU1.                 00290024
           SELECT P-F ASSIGN UT-S-OUTPU2.                  00300024
       DATA DIVISION.                                      00310024
       FILE SECTION.                                       00320000
       FD  DI-F LABEL RECORD STANDARD BLOCK CONTAINS 25 RECORDS.  00330010
       01  DI-R.                                           00340020
           03  YYMM PIC 9(4).                              00350024
           03  TSI PIC 9(2).                               00360024
           03  NN PIC 99.                                  00370024
           03  JG PIC 99.                                  00380024
           03  J11 PIC 9(8).                               00390024
           03  K1 PIC 9(6).                                00400024
           03  K2 PIC 9(6).                                00410024
           03  K3 PIC 9(6).                                00420000
           03  L1 PIC 9(6).                                00430010
           03  L2 PIC 9(6).                                00440020
           03  L3 PIC 9(6).                                00450024
           03  M1 PIC 9(6).                                00460024
           03  M2 PIC 9(6).                                00470024
           03  M3 PIC 9(6).                                00480024
           03  N1 PIC 9(6).                                00490024
           03  N2 PIC 9(6).                                00500024
           03  N3 PIC 9(6).                                00510024
           03  X1 PIC 9(5).                                00520000
           03  X2 PIC 9(5).                                00530010
           03  Y1 PIC 9(5).                                00540020
           03  Y2 PIC 9(5).                                00550024
           03  Z1 PIC 9(5).                                00560024
           03  Z2 PIC 9(5).                                00570024
           03  J22 PIC 9(8).                               00580024
           03  TCO PIC 9.                                  00590024
       FD  DO-F LABEL RECORD STANDARD BLOCK CONTAINS 25 RECORDS.  00600024
       01  DO-R.                                           00610024
           02  OSS.                                        00620000
```

```
            03  OYY PIC 99.                                          00630010
            03  OMM PIC 99.                                          00640020
            03  OSI PIC 99.                                          00650024
           .03  ONN PIC 99.                                          00660024
            03  OGU PIC 99.                                          00670024
        02  OCC PIC 9(8).                                            00680024
        02  OCH PIC 9(6) OCCURS 12.                                  00690024
        02  OHA PIC 9(5) OCCURS 6.                                   00700024
        02  OIG PIC 9(8).                                            00710024
        02  OCO PIC 9.                                               00720000
 FD  P-F LABEL RECORD OMITTED.                                       00730010
 01  P-R PIC X(132).                                                 00740020
 WORKING-STORAGE SECTION.                                            00750024
.77  MH PIC 99 VALUE 0.                                              00760024
 77  DPP PIC 99 VALUE 1.                                             00770024
 77  PNN PIC 99 VALUE 0.                                             00780024
 77  SWW PIC 9 VALUE 0.                                              00790024
 77  DQ PIC 9(2) VALUE 0.                                            00800024
 77  ER PIC 9(5) VALUE 0.                                            00810024
 77  CC PIC 9(5) VALUE 0.                                            00820000
 77  SW PIC 9 VALUE 0.                                               00830010
 77  J  PIC 9(2) VALUE 0.                                            00840020
 77· I  PIC 9(2) VALUE 0.                                            00850024
 77  OK PIC 9(5) VALUE 0.                                            00860024
 77  F1 PIC 9(6) VALUE 0.                                            00870024
 77  F2 PIC 9(6) VALUE 0.                                            00880024
 77  F3 PIC 9(6) VALUE 0.                                            00890024
 77  F4 PIC 9(6) VALUE 0.                                            00900024
 77  F5 PIC 9(6) VALUE 0.                                            00910024
 77  F6 PIC 9(6) VALUE 0.                                            00920000
 77  F7 PIC S9(6).                                                   00930081
 77  F8 PIC 9(6) VALUE 0.                                            00940020
 77 .F9 PIC 9(6) VALUE 0.                                            00950024
 77  SMM PIC 9 VALUE 0.                                              00960024
 77  SWX PIC 9 VALUE 0.                                              00970024
 77  MX PIC 9 VALUE 0.                                               00980024
 01  COL-R.                                                          00990024
        03  COL PIC X(120) VALUE "....5...10...15...20...25...30...35 01000024
 -           "...40...45...50...55...60...65...70...75...80:..85:..90. 01010024
 -           "..95..100..105..110..115..120".                        01020024
        03  COK PIC X(9) VALUE "..125....".                          01030024
 01  DORA.                                                           01040024
        03  DR PIC X(28) VALUE "17110604033122132018829332704".      01050079
 01  DRDR REDEFINES DORA.                                            01060024
        03 DDR PIC 9(2) OCCURS 14.                                   01070079
 01  SIDO.                                                           01080010
        03  SI PIC X(28) VALUE "11212223243132333435363738339".      01090079
 01  SSDO REDEFINES SIDO.                                            01100024
        03 SI PIC 9(2) OCCURS 14 ASCENDING KEY S1 INDEXED BY QQ.     01110079
 01  PR-R.                                                           01120024
        02  PW OCCURS 33.                                            01130059
            03  PYM PIC 9(4).                                        01140024
            03  PSI PIC 9(2).                                        01150024
            03  PDF PIC 99.                                          01160024
            03  PGU PIC 99.                                          01170000
            03  W1 PIC 9(8).                                         01180010
            03  PK1 PIC 9(6) OCCURS 12.                              01190020
            03  PK2 PIC 9(5) OCCURS 6.                               01200024
            03  W2 PIC 9(8).                                         01210024
            03  PGC PIC 9.                                           01220024
 01  SIA.                                                            01230082
        03  SI1 PIC X(34) VALUE "11121314151617181920212223242526627". 01240082
```

```
01   SOA REDEFINES SIA.                                                      01250032
     03  SA PIC 9(2) OCCURS 17 ASCENDING KEY SA INDEXED BY Q1.              01260024
01   SIB.                                                                    01270082
     03  SI2 PIC X(22) VALUE "1112131415161718192021".                     01280082
01   SOB REDEFINES SIB.                                                      01290082
     03  SB PIC 9(2) OCCURS 11 ASCENDING KEY SB INDEXED BY Q2.             01300024
01   SIC.                                                                    01310082
     03  SI3 PIC X(12) VALUE "111213141516".                               01320082
01   SOC REDEFINES SIC.                                                      01330082
     03  SC PIC 9(2) OCCURS 6 ASCENDING KEY SC INDEXED BY Q3.              01340024
01   SID.                                                                    01350082
     03  SI4 PIC X(8) VALUE "11121314".                                    01360082
01   SOD REDEFINES SID.                                                      01370082
     03  SX PIC 9(2) OCCURS 4 ASCENDING KEY SX INDEXED BY Q4.              01380010
01   SIE.                                                                    01390082
     03  SN5 PIC X(6) VALUE "111213".                                      01400082
01   SOE REDEFINES SIE.                                                      01410082
     03  SN PIC 9(2) OCCURS 3 ASCENDING KEY SN INDEXED BY R5.              01420081
01   SIF.                                                                    01430082
     03  SI6 PIC X(62) VALUE "11121314151617181920212223132333343536       01440082
         "373839404142434445464748849".                                    01450024
01   SOF REDEFINES SIF.                                                      01460082
     03  SE PIC 9(2) OCCURS 31 ASCENDING KEY SE INDEXED BY Q5.             01470024
01   SIG                                                                     01480082
     03  SI7 PIC X(44) VALUE "1112131415161731323334353637383940414        01490082
         "42434445".                                                        01500024
01   SOG REDEFINES SIG.                                                      01510082
     03  SF PIC 9(2) OCCURS 22 ASCENDING KEY SF INDEXED BY Q6.             01520010
01   SIH.                                                                    01530082
     03  SI8 PIC X(26) VALUE "111213313233343536373839340".                01540082
01   SOH REDEFINES SIH.                                                      01550082
     03  SG PIC 9(2) OCCURS 13 ASCENDING KEY SG INDEXED BY Q7.             01560024
01   SII.                                                                    01570082
     03  SI9 PIC X(40) VALUE "0011121314313233343536373839404142 43        01580082
         "4445".                                                            01590024
01   SOI REDEFINES SII.                                                      01600082
     03  SH PIC 9(2) OCCURS 20 ASCENDING KEY SH INDEXED BY Q8.             01610024
01   SIJ.                                                                    01620082
     03  SIO PIC X(36) VALUE "11121314153132333435363738394041 4243        01630082
         "".                                                                01640020
01   SOJ REDEFINES SIJ.                                                      01650082
     03  SJJ PIC 9(2) OCCURS 18 ASCENDING KEY SJJ INDEXED BY Q9.           01660024
01   SIK.                                                                    01670082
     03  SIP PIC X(58) VALUE "111213141516313233343536373839404142         01680082
         "4344454647484950515253".                                         01690024
01   SOK REDEFINES SIK.                                                      01700082
     03  SJ PIC 9(2) OCCURS 29 ASCENDING KEY SJ INDEXED BY R1.             01710024
01   SIL.                                                                    01720082
     03  SKO PIC X(66) VALUE "11121314151617181931323334353637383         01730082
         "40414243444546474849500051525354".                              01740020
01   SOL REDEFINES SIL.                                                      01750082
     03  SK PIC 9(2) OCCURS 33 ASCENDING KEY SK INDEXED BY R2.             01760024
01   SIM.                                                                    01770082
     03  SLL PIC X(54) VALUE "001112131415161731323334353637383940         01780082
         "414243444546474849".                                            01790024
01   SOM REDEFINES SIM.                                                      01800082
     03  SL PIC 9(2) OCCURS 27 ASCENDING KEY SL INDEXED BY R3.             01810024
01   SIN.                                                                    01820082
     03  SMK PIC X(8) VALUE "11123132".                                    01830082
01   SON REDEFINES SIN.                                                      01840082
     03  SM PIC 9(2) OCCURS 4 ASCENDING KEY SM INDEXED BY R4.              01850024
01   TXBLE.                                                                  01860024
```

```
      03  TX-R OCCURS 33.                                          01870059
          05   TYM PIC X(4).                                       01880024
          05   TH PIC X(2).                                        01890024
          05   TN PIC X(2).                                        01900024
          05   TJ PIC X(2).                                        01910024
          05   TZ1 PIC X(8).                                       01920000
          05   TZ PIC X(6) OCCURS 12.                              01930010
          05   TZZ PIC X(5) OCCURS 6.                              01940020
          05   TZ2 PIC X(8).                                       01950024
          05   TOO PIC X.                                          01960024
01  PP-R.                                                          01970024
    03  PB1 PIC X(4).                                              01980024
    03  PB2 PIC X(2).                                              01990024
    03  PB3 PIC X(2).                                              02000024
    03  PB4 PIC X(2).                                              02010024
    03  PC1 PIC Z(7)9.                                             02020024
    03  PD PIC Z(5)9 OCCURS 12.                                    02030000
    03  PE PIC Z(4)9 OCCURS 6.                                     02040010
    03  PFF PIC Z(7)9.                                             02050020
    03  PF1 PIC X.                                                 02060024
    03  FF PIC X(2) VALUE SPACE.                                   02070024
01  PQ-R.                                                          02080024
    03  PTA PIC X(4).                                              02090024
    03  PTB PIC X(2).                                              02100024
    03  PTC PIC X(2).                                              02110024
    03  PTD PIC X(2).                                              02120024
    03  PT1 PIC X(8).                                              02130024
    03  PTZ PIC X(6) OCCURS 12.                                    02140024
    03  PZ1 PIC X(5) OCCURS 6.                                     02150000
    03  PT2 PIC X(8).                                              02160010
    03  PY1 PIC X.                                                 02170020
    03  F PIC X(2) VALUE SPACE.                                    02180024
01  PWX.                                                           02190024
    03  J3 PIC 9(10).                                              02200024
    03  J1 PIC 9(8).                                               02210024
    03  KK PIC 9(6) OCCURS 12.                                     02220024
    03  MM PIC 9(5) OCCURS 6.                                      02230024
    03  J2 PIC 9(8).                                               02240024
01  TT-R.                                                          02250000
    03  T-R OCCURS 33.                                             02260059
              05   GU-C PIC X(10).                                 02270020
              05   PW1 PIC X(8).                                   02280024
              05   PW2 PIC X(6) OCCURS 12.                         02290024
              05   PW3 PIC X(5) OCCURS 6.                          02300024
              05   PW4 PIC X(8).                                   02310024
              05   CO PIC X.                                       02320024
01  XX-R.                                                          02330024
    03  XX1 PIC 9(8).                                              02340024
    03  XX2 PIC 9(6) OCCURS 12.                                    02350000
    03  XX3 PIC 9(5) OCCURS 6.                                     02360010
    03  XX4 PIC 9(8).                                              02370020
PROCEDURE DIVISION.                                               02380024
    OPEN INPUT DI-F OUTPUT DO-F P-F.                              02390024
    MOVE ALL "0" TO PWX.                                          02400024
    MOVE ALL "0" TO XX-R.                                         02410024
    MOVE SPACE TO P-R.                                            02420024
    WRITE P-R AFTER ADVANCING PPGE.                               02430024
READ-RTN.                                                          02440024
    READ DI-F AT END GO TO L-RTN.                                 02450000
    EXAMINE DI-R REPLACING ALL SPACE BY 0.                        02460035
    IF TSI = 0 GO TO READ-RTN.                                    02470020
MOVE-RTN.                                                          02480024
```

```
        IF MX = 1 GO TO MM-RTN.                                    02490024
        ADD 1 TO PNN.                                              02500024
        MOVE DI-R TO PW(PNN).                                      02510024
        ADD 1 TO CC.                                               02520024
R-RTN.                                                             02530024
        READ DI-F AT END GO TO L-RTN.                             02540024
        EXAMINE DI-R  REPLACING ALL SPACE BY 0.                   02550035
        IF TSI = 0 GO TO R-RTN.                                   02560010
        IF TSI NOT = PSI (PNN) GO TO MX99-RTN.                    02570020
        IF PDF (PNN) = DDR(DPP) GO TO CHECK-RTN.                  02580024
        GO TO FX-RTN.                                             02590024
MX99-RTN.                                                         02600024
        IF PDF (PNN) = 99 GO TO CHONG-RTN.                       02610024
        GO TO CHO-RTN.                                            02620024
FX-RTN.                                                           02630024
        COMPUTE MH = NN - PNN.                                    02640024
        IF MH > 1 GO TO MM-RTN.                                   02650000
        IF MH < 1 GO TO DD-RTN.                                   02660010
CHECK-RTN.                                                        02670020
        IF PYM (PNN) NOT = 8612  MOVE "****" TO TYM(PNN).        02680089
        SEARCH ALL S1 AT END GO TO ER4-RTN                       02690024
            WHEN S1   (QQ) = PSI (PNN) SET DQ TO QQ GO TO GU-RTN. 02700024
GU-RTN.                                                           02710024
        GO TO D1 D2  D3 D4 D5 D6 D7 D8 D9 E1 E2 E3 E4 E5          02720079
            DEPENDING ON DQ.                                      02730024
JEON-RTN.                                                         02740024
        COMPUTE F1 = PK1 (PNN 2) + PK1 (PNN 3).                  02750081
        IF F1 = PK1 (PNN 1) GO TO CHUL-RTN.                      02760081
        MOVE "AAAAAA" TO TZ (PNN 1).                             02770081
CHUL-RTN.                                                         02780020
        COMPUTE F2 = PK1 (PNN 5) + PK1 (PNN 6).                  02790081
        IF PK1 (PNN 4) = F2 GO TO IPC-RTN.                       02800081
        MOVE "BBBBBB" TO TZ (PNN 4).                             02810081
IPC-RTN.                                                          02820024
        COMPUTE F3 = PK1 (PNN 7) + PK1 (PNN 8) + PK1 (PNN 9).    02830081
        IF F3 = PK1 (PNN 1) GO TO CHD-RTN.                       02840081
        MOVE "CCCCCC" TO TZ (PNN 7).                             02850081
CHD-RTN.                                                          02860000
        COMPUTE F4 = PK1 (PNN 10) + PK1 (PNN 11) + PK1 (PNN 12). 02870081
        IF SW = 1 AND F4 =PK1 (PNN 4) GO TO YXY-RTN.            02880081
        IF F4 = PK1 (PNN 4) GO TO CHE-RTN.                       02890081
        MOVE "DDDDDD" TO TZ (PNN 10).                            02900081
        IF SW = 1 GO TO YXY-RTN.                                 02910024
CHE-RTN.                                                          02920024
        COMPUTE F5 = PK1 (PNN 1) + PK2 (PNN 1) + PK2 (PNN 3).    02930081
        COMPUTE F6 = PK1 (PNN 4) + PK2 (PNN 2) + PK2 (PNN 4).    02940081
        COMPUTE F7 = F5 - F6.                                    02950024
        IF F7 > 0 GO TO JUNG-RTN.                                02960000
        GO TO GAM-RTN.                                           02970010
JUNG-RTN.                                                         02980020
        IF F7 = PK2 (PNN 5) GO TO KIJ-RTN.                       02990081
        MOVE "EEEEE" TO TZZ (PNN 5). GO TO F-RTN.                03000081
KIJ-RTN.                                                          03010024
        COMPUTE F8 = W1 (PNN) + PK2 (PNN 5).                     03020081
        IF F8 = W2 (PNN) GO TO KK-RTN.                           03030024
F-RTN.                                                            03040024
        MOVE "FFFFFFFF" TO TZ2 (PNN).                            03050024
KK-RTN.                                                           03060000
        IF SW = 1 OR SWX = 1 GO TO YXY-RTN.                      03070010
        COMPUTE XX1 = XX1 + W1 (PNN).                            03080020
        PERFORM GX-RTN VARYING J FROM 1 BY 1 UNTIL J > 12.      03090024
        GO TO KA-RTN.                                            03100024
```

```
GX-RTN.                                                            03110024
      COMPUTE XX2 (J) = XX2 (J) + PK1 (PNN J).                     03120024
KA-RTN.                                                            03130024
      PERFORM RR-RTN VARYING J FROM 1 BY 1 UNTIL J > 6.            03140024
      GO TO YY-RTN.                                                03150024
RR-RTN.                                                            03160000
      COMPUTE XX3 (J) = XX3 (J) + PK2 (PNN J).                     03170010
YY-RTN.                                                            03180020
      COMPUTE XX4 = XX4 + W2 (PNN).                                03190024
YXY-RTN.                                                           03200024
      MOVE PW(PNN) TO T-R (PNN).                                   03210024
      IF MX = 1 GO TO MX-RTN.                                      03220024
      IF SMM = 1 AND SW NOT = 1 ADD 1 TO PNN.                      03230024
MX-RTN.                                                            03240024
      MOVE 0 TO MX.                                                03250024
      IF SW = 1 OR  SWX = 1 GO TO QY-RTN.                          03260000
      GO TO MOVE-RTN.                                              03270010
GAM-RTN.                                                           03280020
      COMPUTE F7 = F7 * (-1).                                      03290024
      IF F7 = PK2 (PNN 6) GO TO KIC-RTN.                           03300024
      MOVE "EEEEE" TO TZZ (PNN 6). GO TO G-RTN.                    03310024
KIC-RTN.                                                           03320024
      COMPUTE F9 = W1 (PNN) - PK2 (PNN 6).                         03330024
      IF F9 = W2 (PNN) GO TO KK-RTN.                               03340024
G-RTN.                                                             03350024
      MOVE "GGGGGGGG" TO TZ2 (PNN).                                03360000
      GO TO KK-RTN.                                                03370010
ERR-CHECK.                                                         03380020
      IF TXBLE = " " GO TO OK-RTN.                                 03390024
      ADD 1 TO ER.                                                 03400024
      PERFORM MP-RTN THRU 222 VARYING I FROM 1 BY 1 UNTIL I > PNN. 03410024
      GO TO 333.                                                   03420024
MP-RTN.                                                            03430024
      MOVE GU-C (I) TO OSS.                                        03440024
      MOVE PW1(I) TO OCC.                                          03450024
      PERFORM 100 VARYING J FROM 1 BY 1 UNTIL J > 12.             03460000
      GO TO 111.                                                   03470010
100.                                                               03480020
      MOVE PW2 (I J) TO OCH(J).                                    03490081
111.                                                               03500024
      PERFORM 200 VARYING J FROM 1 BY 1 UNTIL J > 6.              03510024
      GO TO 222.                                                   03520024
200.                                                               03530024
      MOVE PW3 (I J) TO OHA (J).                                   03540081
222.                                                               03550024
      MOVE PW4 (I) TO OIG.                                         03560000
      MOVE CO (I) TO OCO.                                          03570010
      WRITE DO-R.                                                  03580020
333.                                                               03590024
      WRITE P-R AFTER ADVANCING PPGE.                              03600024
      PERFORM 300 THRU A-RTN VARYING I FROM 1 BY 1 UNTIL I > PNN.  03610024
      GO TO CLEAR-RTN.                                             03620024
300.                                                               03630024
      MOVE PYM (I) TO PB1. MOVE TYM (I) TO PTA.                    03640024
      MOVE PSI (I) TO PB2. MOVE TH  (I) TO PTB.                    03650024
      MOVE PDF (I) TO PB3. MOVE TN  (I) TO PTC.                    03660024
      MOVE PGU (I) TO PB4. MOVE TJ  (I) TO PTD.                    03670024
      MOVE W1  (I) TO PC1. MOVE TZ1 (I) TO PT1.                    03680024
      PERFORM 232 VARYING J FROM 1 BY 1 UNTIL J > 12.            03690024
      GO TO 556.                                                   03700024
232.                                                               03710024
      MOVE PK1 (I J) TO PD (J).                                    03720081
```

```
        MOVE TZ   (I J) TO PTZ (J).                        03730081
556.                                                       03740024
        PERFORM 432 VARYING J FROM 1 BY 1 UNTIL J > 6.     03750024
        GO TO XR-RTN.                                      03760024
432.                                                       03770024
        MOVE PK2 (I J) TO PE (J).                          03780081
        MOVE TZZ (I J) TO PZ1 (J).                         03790081
XR-RTN.                                                    03800024
        MOVE W2   (I) TO PFF.                              03810024
        MOVE PGC  (I) TO PF1.                              03820024
        MOVE TZ2  (I) TO PT2.                              03830024
        MOVE TOO  (I) TO PY1.                              03840024
        MOVE SPACE TO FF.                                  03850024
        IF I = 1 OR I = 12 OR I = 22                       03860024
        MOVE COL-R TO P-R                                  03870024
        WRITE P-R AFTER ADVANCING 2.                       03880024
        WRITE P-R FROM PP-R AFTER ADVANCING 1.             03890000
        MOVE SPACE TO P-R.                                 03900010
        WRITE P-R FROM PQ-R AFTER ADVANCING 1.             03910020
        MOVE SPACE TO P-R.                                 03920024
A-RTN.                                                     03930024
        EXIT.                                              03940024
CLEAR-RTN.                                                 03950024
        IF SWW = 1 GO TO DIS-RTN.                          03960024
        MOVE ALL SPACE TO TXBLE.                           03970024
        MOVE SPACE TO PR-R.                                03980024
        MOVE 0 TO SMM.                                     03990024
        MOVE 0 TO PNN.                                     04000024
        ADD 1 TO DPP.                                      04010000
        GO TO MOVE-RTN.                                    04020010
OK-RTN.                                                    04030020
        ADD 1 TO OK.                                       04040024
        PERFORM MQ-RTN THRU 666 VARYING I FROM 1 BY 1 UNTIL I > PNN.  04050024
        GO TO CLEAR-RTN.                                   04060024
MQ-RTN.                                                    04070024
        MOVE GU-C (I) TO OSS.                              04080024
        MOVE PW1 (I) TO OCC.                               04090024
        PERFORM 400 VARYING J FROM 1 BY 1 UNTIL J > 12.   04100024
        GO TO 444.                                         04110000
400.                                                       04120010
        MOVE PW2 (I J) TO OCH (J).                         04130081
444.                                                       04140024
        PERFORM 500 VARYING J FROM 1 BY 1 UNTIL J > 6.    04150024
        GO TO 666.                                         04160024
500.                                                       04170024
        MOVE PW3 (I J) TO OHA (J).                         04180081
666.                                                       04190024
        MOVE PW4 (I) TO OIG.                               04200024
        MOVE CO (I) TO OCO.                                04210000
        WRITE DO-R.                                        04220010
MM-RTN.                                                    04230020
        MOVE 1 TO SMM.                                     04240024
        MOVE "MM" TO TN (PNN).                             04250024
        MOVE PW(PNN) TO PP-R.                              04260024
        MOVE "MM" TO PB1                                   04270024
        WRITE P-R FROM PP-R AFTER ADVANCING 1.            04280024
        MOVE SPACE TO P-R.                                 04290024
        MOVE SPACE TO PP-R.                                04300024
        MOVE DI-R TO PP-R.                                 04310000
        WRITE P-R FROM PP-R AFTER ADVANCING 1.            04320010
        MOVE SPACE TO P-R.                                 04330020
        MOVE SPACE TO PP-R.                                04340024
```

```
        IF MX = 1 ADD 1 TO PNN.                                    04350024
        GO TO CHECK-RTN.                                           04360024
CHONG-RTN.                                                         04370024
        IF W1 (PNN) NOT = XX1  MOVE "HHHHHHHH" TO TZ1 (PNN).       04380024
        PERFORM GG-RTN VARYING J FROM 1 BY 1 UNTIL J > 12.         04390024
        GO TO G1-RTN.                                              04400024
GG-RTN.                                                            04410000
        IF PK1(PNN J) NOT = XX2(J) MOVE "HHHHHHH" TO TZ(PNN J).    04420081
G1-RTN.                                                            04430020
        PERFORM GR-RTN VARYING I FROM 1 BY 1 UNTIL I > 6.          04440024
        GO TO G2-RTN.                                              04450024
GR-RTN.                                                            04460024
        IF PK2(PNN I) NOT = XX3(I) MOVE "HHHHHHH" TO TZZ(PNN I).   04470081
G2-RTN.                                                            04480024
        IF W2 (PNN) NOT = XX4 MOVE "HHHHHHHHH" TO TZ2 (PNN).       04490024
        GO TO MR99-RTN.                                            04500024
D1.                                                                04510000
        SEARCH ALL SA AT END GO TO ER1-RTN                        04520010
                WHEN SA(Q1) = PGU (PNN) GO TO JEON-RTN.            04530020
D2. SEARCH ALL SB AT END GO TO ER1-RTN                            04540024
                WHEN SB(Q2) = PGU (PNN) GO TO JEON-RTN.            04550024
D3. SEARCH ALL SC AT END GO TO ER1-RTN                            04560024
                WHEN SC(Q3) = PGU (PNN) GO TO JEON-RTN.            04570024
D4. SEARCH ALL SX AT END GO TO ER1-RTN                            04580024
                WHEN SX(Q4) = PGU (PNN) GO TO JEON-RTN.            04590024
D5. SEARCH ALL SE AT END GO TO ER1-RTN                            04600024
                WHEN SE(Q5) = PGU (PNN) GO TO JEON-RTN.            04610000
D6. SEARCH ALL SF AT END GO TO ER1-RTN                            04620010
                WHEN SF(Q6) = PGU (PNN) GO TO JEON-RTN.            04630020
D7. SEARCH ALL SG AT END GO TO ER1-RTN                            04640024
                WHEN SG(Q7) = PGU (PNN) GO TO JEON-RTN.            04650024
D8. SEARCH ALL SH AT END GO TO ER1-RTN                            04660024
                WHEN SH(Q8) = PGU (PNN) GO TO JEON-RTN.            04670024
D9. SEARCH ALL SJJ AT END GO TO ER1-RTN                           04680024
                WHEN SJJ(Q9) = PGU (PNN) GO TO JEON-RTN.           04690024
E1. SEARCH ALL SJ AT END GO TO ER1-RTN                            04700024
                WHEN SJ(R1) = PGU (PNN) GO TO JEON-RTN.            04710000
E2. SEARCH ALL SK AT END GO TO ER1-RTN                            04720010
                WHEN SK(R2) = PGU (PNN) GO TO JEON-RTN.            04730020
E3. SEARCH ALL SL AT END GO TO ER1-RTN                            04740024
                WHEN SL(R3) = PGU (PNN) GO TO JEON-RTN.            04750024
E4. SEARCH ALL SM AT END GO TO ER1-RTN                            04760024
                WHEN SM(R4) = PGU (PNN) GO TO JEON-RTN.            04770024
E5. SEARCH ALL SN AT END GO TO ER1-RTN                            04780079
                WHEN SN(R5) = PGU (PNN) GO TO JEON-RTN.            04790079
DD-RTN.                                                            04800024
        MOVE "DD" TO TN (PNN).                                     04810024
        MOVE PW (PNN) TO PP-R.                                     04820024
        MOVE "DD" TO PB1.                                          04830000
        WRITE P-R FROM PP-R AFTER ADVANCING 1.                    04840010
        MOVE SPACE TO P-R.                                         04850020
        MOVE SPACE TO PP-R.                                        04860024
        MOVE DI-R TO PP-R.                                         04870024
        WRITE P-R FROM PP-R AFTER ADVANCING 1.                    04880024
        MOVE SPACE TO P-R.                                         04890024
        MOVE SPACE TO PP-R.                                        04900024
        GO TO CHECK-RTN.                                           04910024
ER4-RTN.                                                           04920024
        MOVE " " TO TH(PNN).                                       04930086
        MOVE " " TO TJ(PNN).                                       04940086
        GO TO JEON-RTN.                                            04950020
ER1-RTN.                                                           04960024
```

— 68 —

```
        MOVE " " TO TJ (PNN).                                    04970086
        GO TO JEON-RTN.                                          04980024
CHO-RTN.                                                         04990024
        MOVE XX1 TO J1.                                          05000024
        PERFORM XX-RTN VARYING J FROM 1 BY 1 UNTIL J > 12.       05010024
        GO TO M1-RTN.                                            05020024
XX-RTN.                                                          05030000
        MOVE XX2 (J) TO KK(J).                                   05040010
M1-RTN.                                                          05050020
        PERFORM XY-RTN VARYING J FROM 1 BY 1 UNTIL J > 6.        05060024
        GO TO QP-RTN.                                            05070024
XY-RTN.                                                          05080024
        MOVE XX3(J) TO MM(J).                                    05090024
QP-RTN.                                                          05100024
        MOVE XX4 TO J2.                                          05110024
        MOVE ALL "9" TO J3.                                      05120024
        WRITE P-R FROM PWX AFTER ADVANCING 1.                    05130000
        MOVE SPACE TO P-R.                                       05140010
        MOVE "99" TO TN(PNN).                                    05150020
        MOVE PW(PNN) TO PP-R.                                    05160024
        MOVE "99" TO PB1.                                        05170024
        WRITE P-R FROM PP-R AFTER ADVANCING 1.                   05180024
        MOVE SPACE TO P-R.                                       05190024
        MOVE SPACE TO PP-R.                                      05200024
        MOVE DT-R TO PP-R.                                       05210024
        WRITE P-R FROM PP-R  AFTER ADVANCING 1.                  05220024
        MOVE SPACE TO P-R.                                       05230000
        MOVE SPACE TO PP-R.                                      05240010
        MOVE ALL "0" TO PWX.                                     05250020
        MOVE 1 TO SWX.                                           05260024
        GO TO CHECK-RTN.                                         05270024
MR99-RTN.                                                        05280024
        MOVE 1 TO SW.                                            05290024
        GO TO JEON-RTN.                                          05300024
QY-RTN.                                                          05310024
        IF NN NOT = 01 MOVE 1 TO MX.                             05320024
        MOVE 0 TO SW SWX.                                        05330000
        MOVE ALL "0" TO XX-R.                                    05340010
        GO TO ERR-CHECK.                                         05350020
L-RTN.                                                           05360024
        IF PDF (PNN) = 99 GO TO 555.                             05370024
        MOVE XX1 TO J1.                                          05380024
        PERFORM Q1-RTN VARYING J FROM 1 BY 1 UNTIL J > 12.       05390024
        GO TO K1-RTN.                                            05400024
Q1-RTN.                                                          05410024
        MOVE XX2(J) TO KK(J).                                    05420024
K1-RTN.                                                          05430000
        PERFORM Q2-RTN VARYING J FROM 1 BY 1 UNTIL J > 6.        05440010
        GO TO K2-RTN.                                            05450020
Q2-RTN.                                                          05460024
        MOVE XX3(J) TO MM(J).                                    05470024
K2-RTN.                                                          05480024
        MOVE XX4 TO J2.                                          05490024
        WRITE P-R FROM PWX AFTER ADVANCING 1.                    05500024
        MOVE SPACE TO P-R.                                       05510024
        MOVE ALL "0" TO PWX.                                     05520024
        GO TO CLO-RTN.                                           05530000
555.                                                            05540010
        IF W1 (PNN) NOT = XX1 MOVE "HHHHHHHHH" TO TZ1(PNN).      05550020
        PERFORM GH-RTN VARYING J FROM 1 BY 1 UNTIL J > 12.      05560024
        GO TO R1-RTN.                                            05570024
GH-RTN.                                                          05580024
```
— 69 —

```
         IF PK1(PNN J) NOT = XX2(J) MOVE "HHHHHH" TO TZ(PNN J).        05590081
     R1-RTN.                                                           05600024
         PERFORM GII-RTN VARYING I FROM 1 BY 1 UNTIL 1 > 6.            05610024
         GO TO R2-RTN.                                                 05620024
     GII-RTN.                                                          05630000
         IF PK2(PNN I) NOT = XX3(I) MOVE "HHHHH" TO TZZ(PNN I).        05640081
     R2-RTN.                                                           05650020
         IF W2 (PNN) NOT = XX4 MOVE "HHHHHHHHH" TO TZ2 (PNN).          05660024
     CLO-RTN.                                                          05670024
         MOVE 1 TO SWW.                                                05680024
         MOVE PW (PNN) TO T-R (PNN).                                   05690024
         GO TO ERR-CHECK.                                              05700024
     DIS-RTN.                                                          05710024
         DISPLAY " CHONG RECORD CC = " CC.                             05720024
         DISPLAY " ERROR RECORD ER = " ER.                             05730000
         DISPLAY " OK RECORD OK = " OK.                                05740010
         CLOSE DI-F DO-F P-F.                                          05750020
         STOP RUN.                                                     05760024
/*                                                                     05770024
//GO.INPUT DD UNIT=SYSDA,DSN=A49.VO.WEG(DECM3),VOL=SER=BOS242,         05780091
//         DISP=(OLD,KEEP)                                             05790024
//GO.OUTPU1 DD UNIT=SYSDA,DSN=A49.VO.WEG(DECM5),VOL=SER=BOS242,        05800090
//         DISP=(OLD,KEEP)                                             05810024
//GO.OUTPU2 DD SYSOUT=*                                                05820024
//GO.SYSOUT DD SYSOUT=*                                                05830000
//GO.SYSDBOUT DD SYSOUT=*                                              05840010
//SYSPRINT DD SYSOUT=*                                                 05850020
/*                                                                     05860024
//                                                                     05870024
```

```
//A49VOWE6 JOB CLASS=A,MSGCLASS=X,NOTIFY=A49                        00010099
//STEP1     EXEC PGM=SORT,PARM='SIZE(MAX)'                          00020099
//SYSOUT   DD  SYSOUT=*                                             00030099
//SYSPRINT DD  SYSOUT=*                                             00040099
//SORTIN   DD  DISP=(OLD,KEEP),UNIT=DISK,DSN=A49.VO.WEG(DECMD),     00050099
//             DCB=(LRECL=129,RECFM=FB,BLKSIZE=3225),               00060099
//             VOL=SER=BOS242                                       00070099
//SORTOUT  DD  DISP=(OLD,KEEP),UNIT=DISK,DSN=A49.VO.WEG(DECMB),     00080099
//             DCB=(LRECL=129,RECFM=FB,BLKSIZE=3225),               00090099
//             VOL=SER=BOS242                                       00100099
//SORTWK01 DD  UNIT=DISK,SPACE=(CYL,(100,10)),VOL=SER=SORTWK        00110099
//SYSIN    DD  *                                                    00120099
 SORT FIELDS=(5,6,A,11,2,A,13,2,A),FORMAT=CH                        00130099
/*                                                                  00140099
//STEP2 EXEC COBUCLG,PARM=(CLIST,FLOW,NUM,XREF,STATE),COND=(0,LT,STEP1) 00150099
//*COB.SYSPRINT DD SYSOUT=*                                         00160099
//COB.SYSIN DD *      *8 WOL -2 HO   *                              00170099
        ID DIVISION.                                                00180099
        PROGRAM-ID. IDONG-EDITING.                                 00190099
        AUTHOR. LEE JEONG SOOK.                                    00200099
        ENVIRONMENT DIVISION.                                      00210099
        CONFIGURATION SECTION.                                     00220099
        SPECIAL-NAMES.                                             00230099
            C01 IS PPGE.                                           00240099
        INPUT-OUTPUT SECTION.                                      00250099
        FILE-CONTROL.                                              00260099
            SELECT DI-F ASSIGN DA-S-INPUT.                         00270099
            SELECT DO-F ASSIGN DA-S-OUTPU1.                        00280099
            SELECT P-F  ASSIGN UT-S-OUTPU2.                        00290099
        DATA DIVISION.                                             00300099
        FILE SECTION.                                              00310099
        FD  DI-F LABEL RECORD STANDARD BLOCK CONTAINS 25 RECORDS.  00320099
        01  DI-R.                                                  00330099
            03  YY PIC 99.                                         00340099
            03  M1 PIC 99.                                         00350099
            03  SSI.                                               00360099
                04  TXX PIC 99.                                    00370099
                04  TGU PIC 99.                                    00380099
            03  TSI  REDEFINES SSI PIC 9(4).                       00390099
            03  NN PIC 99.                                         00400099
            03  JS PIC 99.                                         00410099
            03  JG PIC 99.                                         00420099
            03  CHII PIC 9(6).                                     00430099
            03  MAN PIC 9(6).                                      00440099
            03  WMA PIC 9(6).                                      00450099
            03  GAGU PIC 9(6).                                     00460099
            03  JIKK PIC 9(6).                                     00470099
            03  HOJE PIC 9(6).                                     00480099
            03  HAKE PIC 9(6).                                     00490099
            03  HOVV PIC 9(6).                                     00500099
            03  GITA PIC 9(6).                                     00510099
            03  F PIC X(61).                                       00520099
        FD  DO-F LABEL RECORD STANDARD BLOCK CONTAINS 25 RECORDS.  00530099
        01  DO-R.                                                  00540099
            03  OYY PIC 99.                                        00550099
            03  OMM PIC 99.                                        00560099
            03  OSI PIC 99.                                        00570099
            03  OGU PIC 99.                                        00580099
            03  ONN PIC 99.                                        00590099
            03  OJS PIC 99.                                        00600099
            03  OJG PIC 99.                                        00610099
            03  OCII PIC 9(6).                                     00620099
```

```
       03  OMAN PIC 9(6).                                                00630099
       03  OWMA PIC 9(6).                                                00640099
       03  GAGO PIC 9(6).                                                00650099
       03  JIKO PIC 9(6).                                                00660099
       03  HOJO PIC 9(6).                                                00670099
       03  HAKO PIC 9(6).                                                00680099
       03  MOVO PIC 9(6).                                                00690099
       03  GITO PIC 9(6).                                                00700099
       03  F    PIC X(61).                                               00710099
FD  P-F LABEL RECORD OMITTED.                                            00720099
01  P-R.                                                                 00730099
       03  F PIC X VALUE SPACE.                                          00740099
       03  F PIC X(131).                                                 00750099
WORKING-STORAGE SECTION.                                                 00760099
77  PNN PIC 99 VALUE 0.                                                  00770099
77  SWW PIC 9 VALUE 0.                                                   00780099
77  SW PIC 9 VALUE 0.                                                    00790099
77  MS PIC 9(6) VALUE 0.                                                 00800099
77  MT PIC 9(6) VALUE 0.                                                 00810099
77  DQ PIC 9(2) VALUE 0.                                                 00820099
77  ER PIC 9(5) VALUE 0.                                                 00830099
77  CC PIC 9(5) VALUE 0.                                                 00840099
77  J  PIC 9(2) VALUE 0.                                                 00850099
77  I  PIC 9(2) VALUE 0.                                                 00860099
77  OK PIC 9(5) VALUE 0.                                                 00870099
77  MM PIC 99 VALUE 0.                                                   00880099
01  XX-R.                                                                00890099
       03  XX OCCURS 4.                                                  00900099
          05   XD PIC 9(6) OCCURS 9.                                     00910099
01  SIDO.                                                                00920099
       03  SI PIC X(28) VALUE "11212223243132333435363738839".          00930099
01  SSDO REDEFINES SIDO.                                                 00940099
       03  S1 PIC 9(2) OCCURS 14 ASCENDING KEY S1 INDEXED BY QQ.         00950099
01  PR-R.                                                                00960099
       02  PW OCCURS 32.                                                 00970099
          03  PYY PIC 99.                                                00980099
          03  PMM PIC 99.                                                00990099
          03  PPI.                                                       01000099
             04  P-SI PIC 99.                                            01010099
             04  P-GU PIC 99.                                            01020099
          03  PSI REDEFINES PPI PIC 9(4).                                01030099
          03  PDF PIC 99.                                                01040099
          03  PJS PIC 99.                                                01050099
          03  PJG PIC 99.                                                01060099
          03  PGI PIC 9(6) OCCURS 9.                                     01070099
          03  F PIC X(60).                                               01080099
          03  PGC PIC 9.                                                 01090099
01  SIDA.                                                                01100099
       03  SIA PIC X(34) VALUE "11121314151617181920212223242526 27"    01110099
01  SADO REDEFINES SIDA.                                                 01120099
       03  SA PIC 9(2) OCCURS 17 ASCENDING KEY SA INDEXED BY Q1.         01130099
01  SIDB.                                                                01140099
       03  SIB PIC X(22) VALUE "1112131415161718192021".                01150099
01  SBDO REDEFINES SIDB.                                                 01160099
       03  SB PIC 9(2) OCCURS 11 ASCENDING KEY SB INDEXED BY Q2.         01170099
01  SIDC.                                                                01180099
       03  SIC PIC X(12) VALUE "111213141516"                           01190099
01  SADC REDEFINES SIDC.                                                 01200099
       03  SC PIC 9(2) OCCURS 6 ASCENDING KEY SC INDEXED BY Q3.          01210099
01  SIDD.                                                                01220099
       03  SID PIC X(8) VALUE "11121314"                                01230099
01  SXDD REDEFINES SIDD.                                                 01240099
```

```
       03  SX PIC 9(2) OCCURS 4 ASCENDING KEY SX INDEXED BY  Q4.      01250099
   01  SIZD.                                                          01260099
       03  SIZ PIC X(6) VALUE "111213"                               01270099
   01  SOZD REDEFINES SIZD.                                           01280099
       03  SZ PIC 9(2) OCCURS 3 ASCENDING KEY SZ INDEXED BY  R5.      01290099
   01  SIDE.                                                          01300099
       03  SIE PIC X(62) VALUE "11121314151617181920212223132333435336 01310099
   -     "3738394041424344454647484 9".                              01320099
   01  SEDO REDEFINES SIDE.                                           01330099
       03  SE PIC 9(2) OCCURS 31 ASCENDING KEY SE INDEXED BY Q5.      01340099
   01  SIDF.                                                          01350099
       03  SIF PIC X(44) VALUE "1112131415161731323334353637383940 41  01360099
   -       "42434445".                                               01370099
   01  SFDO REDEFINES SIDF.                                           01380099
       03  SF PIC 9(2) OCCURS 22 ASCENDING KEY SF INDEXED BY Q6.      01390099
   01  SIDG.                                                          01400099
       03  SIG PIC X(26) VALUE "111213313233343536373839 40".         01410099
   01  SGDO REDEFINES SIDG.                                           01420099
       03  SG PIC 9(2) OCCURS 13 ASCENDING KEY SG INDEXED BY Q7.      01430099
   01  SIDH.                                                          01440099
       03  SIH PIC X(46) VALUE "00010203111213143132333435363738 3940  01450099
   -       "4142434445".                                             01460099
   01  SHDO REDEFINES SIDH.                                           01470099
       03  SH PIC 9(2) OCCURS 23 ASCENDING KEY SH INDEXED BY Q8.      01480099
   01  SIDI.                                                          01490099
       03  SII PIC X(36) VALUE "1112131415313233343536373839404142 43  01500099
   -       "".                                                        01510099
   01  SIDX REDEFINES SIDI.                                           01520099
       03  SJJ PIC 9(2) OCCURS 18 ASCENDING KEY SJJ INDEXED BY Q9.     01530099
   01  SIDJ.                                                          01540099
       03  SIJ PIC X(58) VALUE "111213141516313233343536373839404142  01550099
   -       "434445464748495051 5253".                                01560099
   01  SJDO REDEFINES SIDJ.                                           01570099
       03  SJ PIC 9(2) OCCURS 29 ASCENDING KEY SJ INDEXED BY R1.      01580099
   01  SKDI.                                                          01590099
       03  SKJ PIC X(66) VALUE "11121314151617181931323334353637383 9  01600099
   -     "4041424344454647484950515253 54".                          01610099
   01  SKDO REDEFINES SKDI.                                           01620099
       03  SK PIC 9(2) OCCURS 33 ASCENDING KEY SK INDEXED BY R2.      01630099
   01  SLDI.                                                          01640099
       03  SLI PIC X(60) VALUE "000102031112131415161731323334353637  01650099
   -       "38394041424344454647484 9".                              01660099
   01  SLDO REDEFINES SLDI.                                           01670099
       03  SL PIC 9(2) OCCURS 30 ASCENDING KEY SL INDEXED BY R3.      01680099
   01  SMDI.                                                          01690099
       03  SMI PIC X(8) VALUE "11123132".                             01700099
   01  SMDO REDEFINES SMDI.                                           01710099
       03  SM PIC 9(2) OCCURS 4 ASCENDING KEY SM INDEXED BY R4.       01720099
   01  TXBLE.                                                         01730099
       03  TX-R OCCURS 32.                                            01740099
           05  TY PIC X(2).                                           01750099
           05  TM PIC X(2).                                           01760099
           05  TH.                                                    01770099
               06  THS PIC X(2).                                      01780099
               06  THG PIC X(2).                                      01790099
           05  TN PIC X(2).                                           01800099
           05  TJ.                                                    01810099
               06  TJS PIC X(2).                                      01820099
               06  TJG PIC X(2).                                      01830099
           05  TZ PIC X(6) OCCURS 9.                                  01840099
           05  F PIC X(61).                                           01850099
   01  PP-R.                                                          01860099
```

```
        03  PC1 PIC X(2).                                           01870099
        03  PC2 PIC X(2).                                           01880099
        03  PP1 PIC X(4).                                           01890099
        03  PR1 PIC X(2).                                           01900099
        03  PR2 PIC X(2).                                           01910099
        03  PR3 PIC X(2).                                           01920099
        03  PD PIC Z(5)9 OCCURS 9.                                  01930099
        03  FF PIC X(60) VALUE SPACE.                               01940099
        03  PGG PIC 9.                                              01950099
        03  FR PIC X(3) VALUE SPACE.                                01960099
    01  PQ-R.                                                       01970099
        03  PCA PIC X(2).                                           01980099
        03  PCB PIC X(2).                                           01990099
        03  PPA PIC X(4).                                           02000099
        03  PRA PIC X(2).                                           02010099
        03  PRB PIC X(2).                                           02020099
        03  PRC PIC X(2).                                           02030099
        03  PTZ PIC X(6) OCCURS 9.                                  02040099
        03  F PIC X(64) VALUE SPACE.                                02050099
    01  PWX.                                                        02060099
        03  PW-R PIC 9(6) OCCURS 9.                                 02070099
    01  COL-R.                                                      02080099
        03  COL PIC X(120) VALUE "....5...10...15...20...25...30...35  02090099
            "...40...45...50...55...60...65...70...75...80...85...90.  02100099
            "..95..100..105..110..115..120".                        02110099
        03  COK PIC X(9) VALUE "..125....".                         02120099
    01  TT-R.                                                       02130099
        03  T-R OCCURS 32.                                          02140099
                05  TQ1 PIC X(68).                                  02150099
                05  TQ2 PIC X(60).                                  02160099
                05  TG PIC X.                                       02170099
    PROCEDURE DIVISION.                                             02180099
        OPEN INPUT DI-F OUTPUT DO-F P-F.                            02190099
        MOVE ALL "0" TO XX-R.                                       02200099
        MOVE ALL "0" TO PWX.                                        02210099
        MOVE SPACE TO P-R.                                          02220099
        MOVE SPACE TO TXBLE.                                        02230099
        MOVE SPACE TO PR-R.                                         02240099
    READ-RTN.                                                       02250099
        READ DI-F AT END GO TO L-RTN.                               02260099
        EXAMINE DI-R REPLACING ALL SPACE BY 0.                      02270099
        IF TSI = 0 GO TO READ-RTN.                                  02280099
    MOVE-RTN.                                                       02290099
        ADD 1 TO PNN.                                               02300099
        MOVE DI-R TO PW(PNN).                                       02310099
        ADD 1 TO CC.                                                02320099
    R-RTN.                                                          02330099
        READ DI-F AT END GO TO L-RTN.                               02340099
        EXAMINE DI-R REPLACING ALL SPACE BY 0.                      02350099
        IF TSI = 0 GO TO R-RTN.                                     02360099
        IF TSI = PSI (PNN) GO TO FX-RTN.                            02370099
        IF PDF (PNN) = 32 GO TO CHONG-RTN.                          02380099
        GO TO CHO-RTN.                                              02390099
    FX-RTN.                                                         02400099
        IF PDF (PNN) = 29 GO TO SI-RTN.                             02410099
        IF PDF (PNN) = 30 GO TO GUN-RTN.                            02420099
        IF PDF (PNN) = 31 GO TO GITA-RTN.                           02430099
        COMPUTE MM = NN - PNN.                                      02440099
        IF MM > 1 GO TO MM-RTN.                                     02450099
        IF MM < 1 GO TO DD-RTN.                                     02460099
    CHECK-RTN.                                                      02470099
        IF PYY (PNN) NOT = 86 MOVE "**" TO TY(PNN).                 02480099
```

— 74 —

```
        IF PMM (PNN) NOT = 12 MOVE "**" TO TM(PNN).             02490099
        SEARCH ALL S1 AT END GO TO ER4-RTN                      02500099
            WHEN S1 (QQ) = P-SI (PNN) SET DQ TO QQ GO TO GU-RTN. 02510099
    GU-RTN.                                                     02520099
        GO TO D1 D2 D3 D4 D5 D6 D7 D8 D9 E1 E2 E3 E4 E5         02530099
        DEPENDING ON DQ.                                        02540099
    JEON-RTN.                                                   02550099
        IF PJS (PNN) = 11 GO TO B1-RTN.                         02560099
        IF PJS (PNN) = 21 GO TO B1-RTN.                         02570099
        IF PJS (PNN) = 22 GO TO B1-RTN.                         02580099
        IF PJS (PNN) = 23 GO TO B1-RTN.                         02590099
        IF PJS (PNN) = 24 GO TO B1-RTN.                         02600099
        IF PJS (PNN) = 31 GO TO D1-RTN.                         02610099
        IF PJS (PNN) = 32 GO TO D1-RTN.                         02620099
        IF PJS (PNN) = 33 GO TO D1-RTN.                         02630099
        IF PJS (PNN) = 34 GO TO C1-RTN.                         02640099
        IF PJS (PNN) = 35 GO TO C1-RTN.                         02650099
        IF PJS (PNN) = 36 GO TO C1-RTN.                         02660099
        IF PJS (PNN) = 37 GO TO D1-RTN.                         02670099
        IF PJS (PNN) = 38 GO TO C1-RTN.                         02680099
        IF PJS (PNN) = 39 GO TO D1-RTN.                         02690099
        IF PJS (PNN) = 40 GO TO E1-RTN.                         02700099
        IF PJS (PNN) = 41 GO TO F1-RTN.                         02710099
            MOVE "****" TO TJ (PNN).                            02720099
        GO TO GYE-RTN.                                          02730099
    B1-RTN.                                                     02740099
        IF PJG (PNN) NOT = 01 MOVE "**" TO TJG (PNN) GO TO GYE-RTN. 02750099
        GO TO GYE-RTN.                                          02760099
    C1-RTN.                                                     02770099
        IF PJG (PNN) < 01 MOVE "**" TO TJG (PNN) GO TO GYE-RTN. 02780099
        IF PJG (PNN) > 03 MOVE "**" TO TJG (PNN) GO TO GYE-RTN. 02790099
        GO TO GYE-RTN.                                          02800099
    D1-RTN.                                                     02810099
        IF PJG (PNN) < 02 MOVE "**" TO TJG (PNN) GO TO GYE-RTN. 02820099
        IF PJG (PNN) > 03 MOVE "**" TO TJG (PNN) GO TO GYE-RTN. 02830099
        GO TO GYE-RTN.                                          02840099
    E1-RTN.                                                     02850099
        IF PJG (PNN) NOT = 04 MOVE "**" TO TJG (PNN) GO TO GYE-RTN. 02860099
        GO TO GYE-RTN.                                          02870099
    F1-RTN.                                                     02880099
        IF PJG (PNN) NOT = 05 MOVE "**" TO TJG (PNN) GO TO GYE-RTN. 02890099
    GYE-RTN.                                                    02900099
        COMPUTE MS = PGI (PNN 2) + PGI (PNN 3).                 02910099
        IF MS = PGI (PNN 1) GO TO GAGU-RTN.                     02920099
        IF SW = 1 MOVE "EEEEEE" TO TZ (PNN 1).                  02930099
        MOVE "XXXXXX" TO TZ (PNN 1).                            02940099
    GAGU-RTN.                                                   02950099
        COMPUTE MT = PGI (PNN 5) + PGI (PNN 6) + PGI (PNN 7)    02960099
                 + PGI (PNN 8) + PGI (PNN 9).                   02970099
        IF PGI (PNN 4) = MT GO TO QR-RTN.                       02980099
        IF SW = 1 MOVE "FFFFFF" TO TZ (PNN 4).                  02990099
        MOVE "YYYYYY" TO TZ (PNN 4).                            03000099
    QR-RTN.                                                     03010099
        MOVE 0 TO SW.                                           03020099
        MOVE PW (PNN) TO T-R (PNN).                             03030099
    NU-RTN.                                                     03040099
        IF PJG (PNN) < 03 GO TO SIBU-RTN.                       03050099
        IF PJG (PNN) = 03 GO TO GUNBU-RTN.                      03060099
        IF PJG (PNN) > 03 GO TO GITABU-RTN.                     03070099
    ERR-CHECK.                                                  03080099
        IF TXBLE = " " GO TO OK-RTN.                            03090099
        ADD 1 TO ER.                                            03100099
```

```
        PERFORM 200 VARYING J FROM 1 BY 1 UNTIL J > 32.          03110099
        GO TO 111.                                               03120099
200.                                                             03130099
        MOVE T-R(J) TO DO-R.                                     03140099
        WRITE DO-R.                                              03150099
111.                                                             03160099
        WRITE P-R AFTER ADVANCING PPGE.                          03170099
        PERFORM 100 THRU M-RTN VARYING I FROM 1 BY 1 UNTIL I > 32. 03180099
        GO TO CLEAR-RTN.                                         03190099
100.                                                             03200099
        MOVE PYY (I) TO PC1.                                     03210099
        MOVE PMM (I) TO PC2.                                     03220099
        MOVE PPI (I) TO PP1.                                     03230099
        MOVE PDF (I) TO PR1.                                     03240099
        MOVE PJS (I) TO PR2.                                     03250099
        MOVE PJG (I) TO PR3.                                     03260099
        MOVE TY (I) TO PCA.                                      03270099
        MOVE TM (I) TO PCB.                                      03280099
        MOVE TH (I) TO PPA.                                      03290099
        MOVE TN (I) TO PRA.                                      03300099
        MOVE TJS (I) TO PRB.                                     03310099
        MOVE TJG (I) TO PRC.                                     03320099
        PERFORM 222  VARYING J FROM 1 BY 1 UNTIL J > 9.          03330099
222.                                                             03340099
        MOVE PGI (I J) TO PD (J).                                03350099
        MOVE TZ  (I J) TO PTZ (J).                               03360099
X-RTN.                                                           03370099
        MOVE SPACE TO FF.                                        03380099
        MOVE PGC (I) TO PGG.                                     03390099
        IF I = 1 OR I = 12 OR I = 22                             03400099
        MOVE COL-R TO P-R                                        03410099
        WRITE P-R  AFTER ADVANCING 2.                            03420099
        WRITE P-R FROM PP-R AFTER ADVANCING 1.                   03430099
        MOVE SPACE TO P-R.                                       03440099
        WRITE P-R FROM PQ-R AFTER ADVANCING 1.                   03450099
        MOVE SPACE TO P-R.                                       03460099
M-RTN.                                                           03470099
        EXIT.                                                    03480099
CLEAR-RTN.                                                       03490099
        MOVE 0 TO SW.                                            03500099
        MOVE 0 TO PNN.                                           03510099
        IF SWW = 1 GO TO DIS-RTN.                                03520099
        MOVE ALL SPACE TO TXBLE.                                 03530099
        MOVE ALL SPACE TO PR-R.                                  03540099
        MOVE ALL SPACE TO PQ-R.                                  03550099
        MOVE ALL SPACE TO PP-R.                                  03560099
        GO TO MOVE-RTN.                                          03570099
OK-RTN.                                                          03580099
        ADD 1 TO OK.                                             03590099
        PERFORM 300 VARYING I FROM 1 BY 1 UNTIL I > 32.          03600099
        GO TO CLEAR-RTN.                                         03610099
300.                                                             03620099
        MOVE T-R (I) TO DO-R.                                    03630099
        WRITE DO-R.                                              03640099
MM-RTN.                                                          03650099
        MOVE "MM" TO TN (PNN).                                   03660099
        MOVE "MM" TO PC1.                                        03670099
        MOVE PW(PNN) TO PP-R.                                    03680099
        WRITE P-R FROM PP-R AFTER ADVANCING 1.                   03690099
        MOVE SPACE TO P-R.                                       03700099
        MOVE SPACE TO PP-R.                                      03710099
        MOVE DI-R TO PP-R.                                       03720099
```

```
        WRITE P-R FROM PP-R AFTER ADVANCING 1.                  03730099
        MOVE SPACE TO P-R.                                      03740099
        MOVE SPACE TO PP-R.                                     03750099
        PERFORM CHECK-RTN THRU NU-RTN.                          03760099
        ADD 1 TO PNN.                                           03770099
        GO TO MOVE-RTN.                                         03780099
SIBU-RTN.                                                       03790099
        PERFORM AA-RTN    VARYING J FROM 1 BY 1 UNTIL J > 9.    03800099
        GO TO MOVE-RTN.                                         03810099
AA-RTN.                                                         03820099
        COMPUTE XD (1 J) = XD (1 J) + PGI (PNN J).              03830099
        COMPUTE XD (4 J) = XD (4 J) + PGI (PNN J).              03840099
GUNBU-RTN.                                                      03850099
        PERFORM BB-RTN   VARYING J FROM 1 BY 1 UNTIL J > 9.     03860099
        GO TO MOVE-RTN.                                         03870099
BB-RTN.                                                         03880099
        COMPUTE XD (2 J) = XD (2 J) + PGI (PNN J).              03890099
        COMPUTE XD (4 J) = XD (4 J) + PGI (PNN J).              03900099
GITABU-RTN.                                                     03910099
        PERFORM CC-RTN VARYING J FROM 1 BY 1 UNTIL J > 9.       03920099
        GO TO MOVE-RTN.                                         03930099
CC-RTN.                                                         03940099
        COMPUTE XD (3 J) = XD (3 J) + PGI (PNN J).              03950099
        COMPUTE XD (4 J) = XD (4 J) + PGI (PNN J).              03960099
SI-RTN.                                                         03970099
        PERFORM DW-RTN VARYING J FROM 1 BY 1 UNTIL J > 9.       03980099
        GO TO GAG-RTN.                                          03990099
DW-RTN.                                                         04000099
        IF PGI (29 J) NOT = XD(1 J) MOVE "AAAAAA" TO TZ(29 J)   04010099
        MOVE 1 TO SW.                                           04020099
GUN-RTN.                                                        04030099
        PERFORM EE-RTN VARYING J FROM 1 BY 1 UNTIL J > 9.       04040099
        GO TO GAG-RTN.                                          04050099
EE-RTN.                                                         04060099
        IF PGI(30 J) NOT = XD (2 J) MOVE "BBBBBB" TO TZ (30 J)  04070099
        MOVE 1  TO SW.                                          04080099
GITA-RTN.                                                       04090099
        PERFORM FF-RTN VARYING J FROM 1 BY 1 UNTIL J > 9.       04100099
        GO TO GAG-RTN.                                          04110099
FF-RTN.                                                         04120099
        IF PGI(31 J) NOT = XD (3 J) MOVE "CCCCCC" TO TZ(31 J)   04130099
        MOVE 1 TO SW.                                           04140099
CHONG-RTN.                                                      04150099
        PERFORM GG-RTN VARYING J FROM 1 BY 1 UNTIL J > 9.       04160099
        GO TO MR32-RTN.                                         04170099
GG-RTN.                                                         04180099
        IF PGI(32 J) NOT = XD (4 J) MOVE "DDDDDD" TO TZ (32 J)  04190099
        MOVE 1 TO SW.                                           04200099
ER4-RTN.                                                        04210099
        MOVE "****" TO TII (PNN).                               04220099
        GO TO JEON-RTN.                                         04230099
GAG-RTN.                                                        04240099
        PERFORM GYE-RTN THRU QR-RTN.                            04250099
        GO TO MOVE-RTN.                                         04260099
D1.                                                             04270099
        SEARCH ALL SA AT END GO TO ER1-RTN                     04280099
             WHEN SA(Q1) = P-GU (PNN) GO TO JEON-RTN.          04290099
D2. SEARCH ALL SB AT END GO TO ER1-RTN                         04300099
             WHEN SB(Q2) = P-GU (PNN) GO TO JEON-RTN.          04310099
D3. SEARCH ALL SC AT END GO TO ER1-RTN                         04320099
             WHEN SC(Q3) = P-GU (PNN) GO TO JEON-RTN.          04330099
D4. SEARCH ALL SX AT END GO TO ER1-RTN                         04340099
```

```
              WHEN SX(Q4) = P-GU (PNN) GO TO JEON-RTN.                    04350099
D5. SEARCH ALL SE AT END GO TO ER1-RTN                                    04360099
              WHEN SE(Q5) = P-GU (PNN) GO TO JEON-RTN.                     04370099
D6. SEARCH ALL SF AT END GO TO ER1-RTN                                    04380099
              WHEN SF(Q6) = P-GU (PNN) GO TO JEON-RTN.                     04390099
D7. SEARCH ALL SG AT END GO TO ER1-RTN                                    04400099
              WHEN SG(Q7) = P-GU (PNN) GO TO JEON-RTN.                     04410099
D8. SEARCH ALL SH AT END GO TO ER1-RTN                                    04420099
              WHEN SH(Q8) = P-GU (PNN) GO TO JEON-RTN.                     04430099
D9. SEARCH ALL SJJ AT END GO TO ER1-RTN                                   04440099
              WHEN SJJ(Q9) = P-GU (PNN) GO TO JEON-RTN.                    04450099
E1. SEARCH ALL SJ AT END GO TO ER1-RTN                                    04460099
              WHEN SJ(R1) = P-GU (PNN) GO TO JEON-RTN.                     04470099
E2. SEARCH ALL SK AT END GO TO ER1-RTN                                    04480099
              WHEN SK(R2) = P-GU (PNN) GO TO JEON-RTN.                     04490099
E3. SEARCH ALL SL AT END GO TO ER1-RTN                                    04500099
              WHEN SL(R3) = P-GU (PNN) GO TO JEON-RTN.                     04510099
E4. SEARCH ALL SM AT END GO TO ER1-RTN                                    04520099
              WHEN SM(R4) = P-GU (PNN) GO TO JEON-RTN.                     04530099
E5. SEARCH ALL SZ AT END GO TO ER1-RTN                                    04540099
              WHEN SZ(R5) = P-GU (PNN) GO TO JEON-RTN.                     04550099
DD-RTN.                                                                    04560099
    MOVE "DD" TO TN (PNN).                                                 04570099
    MOVE "DD" TO PC1.                                                      04580099
    MOVE PW(PNN) TO PP-R.                                                  04590099
    WRITE P-R FROM PP-R AFTER ADVANCING 1.                                04600099
    MOVE SPACE TO P-R.                                                     04610099
    MOVE SPACE TO PP-R.                                                    04620099
    MOVE DI-R TO PP-R.                                                     04630099
    WRITE P-R FROM PP-R AFTER ADVANCING 1.                                04640099
    MOVE SPACE TO P-R.                                                     04650099
    MOVE SPACE TO PP-R.                                                    04660099
    PERFORM CHECK-RTN THRU NU-RTN.                                         04670099
    GO TO MOVE-RTN.                                                        04680099
ER1-RTN.                                                                   04690099
    MOVE "**" TO THG (PNN).                                                04700099
    GO TO JEON-RTN.                                                        04710099
CHO-RTN.                                                                   04720099
    PERFORM XX-RTN VARYING J FROM 1 BY 1 UNTIL J > 9.                      04730099
    GO TO MR32-RTN.                                                        04740099
XX-RTN.                                                                    04750099
    MOVE XD(4 J) TO PW-R (J).                                              04760099
    WRITE P-R FROM PWX AFTER ADVANCING 1.                                 04770099
    MOVE SPACE TO P-R.                                                     04780099
    MOVE ALL "0" TO PWX.                                                   04790099
MR32-RTN.                                                                 04800099
    PERFORM GYE-RTN THRU QR-RTN.                                          04810099
    MOVE ALL "0" TO XX-R.                                                  04820099
    GO TO ERR-CHECK.                                                      04830099
L-RTN.                                                                     04840099
    IF PDF (PNN) = 32 GO TO 555.                                          04850099
    PERFORM YY-RTN VARYING J FROM 1 BY 1 UNTIL J > 9.                     04860099
    GO TO CLO-RTN.                                                        04870099
YY-RTN.                                                                    04880099
    MOVE XD (4 J) TO PW-R (J).                                            04890099
    WRITE P-R FROM PWX AFTER ADVANCING 1.                                04900099
    MOVE SPACE TO P-R.                                                    04910099
    MOVE ALL "0" TO PWX.                                                  04920099
555.                                                                      04930099
    PERFORM 666 VARYING J FROM 1 BY 1 UNTIL J > 9.                        04940099
    GO TO CLO-RTN.                                                        04950099
666.                                                                      04960099
```

```
            IF PGI (32 J) NOT = XD (4 J) MOVE "DDDDDD" TO TZ (32 J).        04970099
        CLO-RTN.                                                            04980099
            MOVE 1 TO SWW.                                                  04990099
            MOVE PW(PNN) TO T-R (PNN).                                      05000099
            GO TO ERR-CHECK.                                                05010099
        DIS-RTN.                                                            05020099
            DISPLAY " CHONG RECORD CC = " CC.                               05030099
            DISPLAY " ERROR RECORD ER = " ER.                               05040099
            DISPLAY " OK RECORD OK = " OK.                                  05050099
            CLOSE DI-F DO-F P-F.                                            05060099
            STOP RUN.                                                       05070099
/*                                                                          05080099
//GO.INPUT DD UNIT=DISK,DSN=A49.VO.WEG(DECMB),VOL=SER=BOS242,               05090099
//         DISP=(OLD,KEEP)                                                  05100099
//GO.OUTPU1 DD UNIT=DISK,DSN=A49.VO.WEG(DECME),VOL=SER=BOS242,              05110099
//         DISP=(OLD,KEEP)                                                  05120099
//GO.OUTPU2 DD SYSOUT=*                                                     05130099
//GO.SYSOUT DD SYSOUT=*                                                     05140099
//GO.SYSPRINT DD SYSOUT=*                                                   05150099
/*                                                                          05160099
//                                                                          05170099
```

A49VOWPS

— UPDATE —

```
                                                                   00020019
//A49VOWPS JOB CLASS=D,NOTIFY=A49,MSGCLASS=X                        00030019
//STEP1 EXEC COBUCLG,REGION=1024K                                   00040019
//COB.SYSPRINT DD SYSOUT=X                                          00050019
//COB.SYSIN DD *    * 1 WOL 1-HO *                                  00060019
        ID DIVISION.                                                00070019
        PROGRAM-ID. IDONG-CONVERT.                                  00080019
        AUTHOR. LEE JEONG SOOK.                                     00090019
        ENVIRONMENT DIVISION.                                       00100019
        INPUT-OUTPUT SECTION.                                       00110019
        FILE-CONTROL.                                               00120019
            SELECT DI-F ASSIGN DA-S-INPUT.                          00130019
            SELECT DO-F ASSIGN DA-S-OUTPU1.                         00140019
            SELECT P-F  ASSIGN UT-S-OUTPU2.                         00150019
        DATA DIVISION.                                              00160019
        FILE SECTION.                                               00170019
        FD  DI-F LABEL RECORD STANDARD BLOCK CONTAINS 25 RECORDS.   00180019
        01  DI-R.                                                   00190019
            03  YY PIC 99.                                          00200019
            03  MM PIC 99.                                          00210019
            03  H1 PIC 9(4).                                        00220019
            03  J1 PIC 99.                                          00230019
            03  ZZ PIC 9(8).                                        00240019
            03  A1 PIC 9(6).                                        00250019
            03  A2 PIC 9(6).                                        00260019
            03  A3 PIC 9(6).                                        00270019
            03  B1 PIC 9(6).                                        00280019
            03  B2 PIC 9(6).                                        00290019
            03  B3 PIC 9(6).                                        00300019
            03  C1 PIC 9(6).                                        00310019
            03  C2 PIC 9(6).                                        00320019
            03  C3 PIC 9(6).                                        00330019
            03  D1 PIC 9(6).                                        00340019
            03  D2 PIC 9(6).                                        00350019
            03  D3 PIC 9(6).                                        00360019
            03  E1 PIC 9(5).                                        00370019
            03  E2 PIC 9(5).                                        00380019
            03  F1 PIC 9(5).                                        00390019
            03  F2 PIC 9(5).                                        00400019
            03  G1 PIC 9(5).                                        00410019
            03  G2 PIC 9(5).                                        00420019
            03  HH PIC 9(8).                                        00430019
            03  F PIC X.                                            00440019
        FD  DO-F LABEL RECORD STANDARD BLOCK CONTAINS 25 RECORDS.   00450019
        01  DO-R.                                                   00460019
            03  OYY PIC 99.                                         00470019
            03  OMM PIC 99.                                         00480019
            03  OH1 PIC 9(4).                                       00490019
            03  OJ1 PIC 99.                                         00500019
            03  OZZ PIC 9(8).                                       00510019
            03  OA1 PIC 9(6).                                       00520019
            03  OA2 PIC 9(6).                                       00530019
            03  OA3 PIC 9(6).                                       00540019
            03  OB1 PIC 9(6).                                       00550019
            03  OB2 PIC 9(6).                                       00560019
            03  OB3 PIC 9(6).                                       00570019
            03  OC1 PIC 9(6).                                       00580019
            03  OC2 PIC 9(6).                                       00590019
            03  OC3 PIC 9(6).                                       00600019
            03  OD1 PIC 9(6).                                       00610019
            03  OD2 PIC 9(6).                                       00620019
            03  OD3 PIC 9(6).
            03  OE1 PIC 9(5).
```

```
           03  OE2 PIC 9(5).                                    00630019
           03  OF1 PIC 9(5).                                    00640019
           03  OF2 PIC 9(5).                                    00650019
           03  OG1 PIC 9(5).                                    00660019
           03  OG2 PIC 9(5).                                    00670019
           03  OHH PIC 9(8).                                    00680019
           03  F PIC X.                                         00690019
       FD  P-F LABEL RECORD OMITTED.                            00700019
       01  P-R PIC X(132).                                      00710019
       WORKING-STORAGE SECTION.                                 00720019
       77  CC PIC 9(5) VALUE 0.                                 00730019
       PROCEDURE DIVISION.                                      00740019
           OPEN INPUT DI-F OUTPUT DO-F P-F.                     00750019
           MOVE SPACE TO P-R.                                   00760019
       R-RTN.                                                   00770019
           READ DI-F AT END GO TO L-RTN.                        00780019
           IF H1 = 1105     MOVE 22284  TO D1                   00790027
           ELSE IF H1 = 3303    MOVE 686     TO G1              00800027
           ELSE IF H1 = 3308    MOVE 221     TO A3              00810027
           ELSE IF H1 = 3311    MOVE 101     TO G2              00820027
           ELSE IF H1 = 3409    MOVE 106798 TO HH               00830027
           ELSE IF H1 = 3418    MOVE 587     TO B3.             00840027
           WRITE DO-R FROM DI-R.                                00850019
           ADD 1 TO CC.                                         00860019
           GO TO R-RTN.                                         00870019
       L-RTN.                                                   00880019
           DISPLAY " CHONG RECORD CC = " CC.                    00890019
           CLOSE DI-F DO-F P-F.                                 00900019
           STOP RUN.                                            00910019
       /*                                                       00920019
       //GO.INPUT DD UNIT=DISK,DSN=A49.VO.WEG(MYBB3),VOL=SER=BOS242,  00930027
       //         DISP=(OLD,KEEP)                               00940019
       //GO.OUTPU1 DD UNIT=DISK,DSN=A49.VO.WEG(MYBB4),VOL=SER=BOS242, 00950027
       //         DISP=(OLD,KEEP)                               00960019
       //GO.OUTPU2 DD SYSOUT=*                                  00970019
       //GO.SYSOUT DD SYSOUT=*                                  00980019
       //GO.SYSPRINT DD SYSOUT=*                                00990019
       /*                                                       01000019
       //                                                       01010019
```

```
//A49VOWC1 JOB CLASS=A,MSGCLASS=X,NOTIFY=A49                    00010099
//STEP1 EXEC COBUCLG,PARM=(CLIST,FLOW,NUM,XREF,DMAP)           00020099
//SYSPRINT  DD SYSOUT=*                                        00030099
//COB.SYSIN DD *    * 4 WOL 2-HO *                             00040099
       ID  DIVISION.                                           00050099
       PROGRAM-ID. IDONG-CONVERT.                              00060099
       AUTHOR. LEE JEONG SOOK.                                 00070099
       ENVIRONMENT DIVISION.                                   00080099
       INPUT-OUTPUT SECTION.                                   00090099
       FILE-CONTROL.                                           00100099
           SELECT DI-F ASSIGN DA-S-INPUT.                      00110099
           SELECT DO-F ASSIGN DA-S-OUTPU1.                     00120099
           SELECT P-F ASSIGN UT-S-OUTPU2.                      00130099
       DATA DIVISION.                                          00140099
       FILE SECTION.                                           00150099
       FD  DI-F LABEL RECORD STANDARD BLOCK CONTAINS 25 RECORDS. 00160099
       01  DI-R.                                               00170099
           03  YY PIC 99.                                      00180099
           03  MM PIC 99.                                      00190099
           03  IIII.                                           00200099
               04  HX PIC 9(4).                                00210099
               04  HY PIC 99.                                  00220099
           03  II1 REDEFINES IIII PIC 9(6).                    00230099
           03  JJ.                                             00240099
               04  J1 PIC 9(2).                                00250099
               04  J2 PIC 9(2).                                00260099
           03  D1 PIC 9(6).                                    00270099
           03  D2 PIC 9(6).                                    00280099
           03  D3 PIC 9(6).                                    00290099
           03  D4 PIC 9(6).                                    00300099
           03  D5 PIC 9(6).                                    00310099
           03  D6 PIC 9(6).                                    00320099
           03  D7 PIC 9(6).                                    00330099
           03  D8 PIC 9(6).                                    00340099
           03  D9 PIC 9(6).                                    00350099
           03  F PIC X(61).                                    00360099
       FD  DO-F LABEL RECORD STANDARD BLOCK CONTAINS 25 RECORDS. 00370099
       01  DO-R.                                               00380099
           03  OYY PIC 99.                                     00390099
           03  OMM PIC 99.                                     00400099
           03  OII1 PIC 9(6).                                  00410099
           03  OJ1 PIC 9(4).                                   00420099
           03  O1 PIC 9(6).                                    00430099
           03  O2 PIC 9(6).                                    00440099
           03  O3 PIC 9(6).                                    00450099
           03  O4 PIC 9(6).                                    00460099
           03  O5 PIC 9(6).                                    00470099
           03  O6 PIC 9(6).                                    00480099
           03  O7 PIC 9(6).                                    00490099
           03  O8 PIC 9(6).                                    00500099
           03  O9 PIC 9(6).                                    00510099
           03  F PIC X(61).                                    00520099
       FD  P-F LABEL RECORD OMITTED.                           00530099
       01  P-R PIC X(132).                                     00540099
       WORKING-STORAGE SECTION.                                00550099
       77  CC PIC 9(5) VALUE 0.                                00560099
       77  PP PIC 9(5) VALUE 0.                                00570099
       01  AA.                                                 00580099
           03  GG PIC 9(14).                                   00590099
           03  A1 PIC 9(6).                                    00600099
           03  A2 PIC 9(6).                                    00610099
           03  A3 PIC 9(6).                                    00620099
```

```
        03  A4 PIC 9(6).                                              00630099
        03  A5 PIC 9(6).                                              00640099
        03  A6 PIC 9(6).                                              00650099
        03  A7 PIC 9(6).                                              00660099
        03  A8 PIC 9(6).                                              00670099
        03  A9 PIC 9(6).                                              00680099
        03  FF PIC X(60).                                             00690099
        03  CO PIC 9.                                                 00700099
    PROCEDURE DIVISION.                                               00710099
        OPEN INPUT DI-F OUTPUT DO-F P-F.                              00720099
        MOVE SPACE TO P-R.                                            00730099
    R-RTN.                                                            00740099
        READ DI-F AT END GO TO L-RTN.                                 00750099
        IF H1 = 374501 AND JJ = 9220 MOVE 2201 TO JJ                  00760099
        MOVE 19 TO HY MOVE 247  TO D1.                                00770099
        IF H1 = 111104 MOVE 25     TO D5                              00780099
        ELSE IF H1 = 111229 MOVE 1319   TO D8                         00790099
        ELSE IF H1 = 111232 MOVE 1666   TO D4                         00800099
        ELSE IF H1 = 111307 MOVE 11     TO D8                         00810099
        ELSE IF H1 = 221122 MOVE 1      TO D5 MOVE 1      TO D6       00820099
        ELSE IF H1 = 333530 MOVE 99     TO D2 MOVE 102    TO D3       00830099
        ELSE IF H1 = 371930 MOVE 108    TO D4 MOVE 17     TO D6       00840099
        ELSE IF H1 = 393229 MOVE 53     TO D4 MOVE 18     TO D5       00850099
        ELSE IF H1 = 393230 MOVE 31     TO D4 MOVE 15     TO D5.      00860099
    B-RTN.                                                            00870099
        WRITE DO-R FROM DI-R.                                         00880099
        ADD 1 TO CC.                                                  00890099
        GO TO R-RTN.                                                  00900099
    L-RTN.                                                            00910099
        DISPLAY "CHONG RECORD CC = " CC.                              00920099
        DISPLAY "SAPIP-RECORD PP = " PP.                              00930099
        CLOSE DI-F DO-F P-F.                                          00940099
        STOP RUN.                                                     00950099
/*                                                                    00960099
//GO.INPUT DD DSN=A49.VO.WEG(DECMC),UNIT=DISK,DISP=(OLD,KEEP),        00970099
//          VOL=SER=BOS242                                            00980099
//GO.OUTPU1 DD DSN=A49.VO.WEG(DECMD),UNIT=DISK,DISP=(OLD,KEEP),       00990099
//          VOL=SER=BOS242                                            01000099
//GO.OUTPU2 DD SYSOUT=*                                               01010099
//GO.SYSOUT DD SYSOUT=*                                               01020099
//GO.SYSDBOUT DD SYSOUT=*                                             01030099
//SYSPRINT DD SYSOUT=*                                                01040099
/*                                                                    01050099
//                                                                    01060099
```

A49V0TAB

— TABLE —

（＃1〜＃18）

```
//A49VOT11 JOB CLASS=A,MSGCLASS=X,NOTIFY=A49                    00010000
//STEP1 EXEC COBUCLG                                           00020000
//*COB.SYSPRINT DD SYSOUT=*                                    00030002
//COB.SYSIN DD *                                               00040000
      ID DIVISION.                                             00050000
      PROGRAM-ID. IDONG-TABLE11.                               00060000
      AUTHOR. LEE JEONG SOOK.                                  00070000
      ENVIRONMENT DIVISION.                                    00080000
      CONFIGURATION SECTION.                                   00090000
      SPECIAL-NAMES.                                           00100000
          C01 IS PPGE.                                         00110000
      INPUT-OUTPUT SECTION.                                    00120000
      FILE-CONTROL.                                            00130000
          SELECT D-F ASSIGN DA-S-INPUT.                        00140000
          SELECT T-F ASSIGN UT-S-INPUU.                        00150000
          SELECT P-F ASSIGN UT-S-OUTPUT.                       00160000
      DATA DIVISION.                                           00170000
      FILE SECTION.                                            00180000
      FD  D-F LABEL RECORD STANDARD BLOCK CONTAINS 25 RECORDS. 00190000
      01  D-R.                                                 00200000
          02  TYY PIC 99.                                      00210000
          02  TMM PIC 99.                                      00220000
          02  HENJENG.                                         00230000
              03   SIDO PIC 99.                                00240000
              03   NON PIC 99.                                 00250000
              03   GUN PIC 99.                                 00260000
          02  JEN-INGU PIC 9(8).                               00270000
          02  JENIP-A.                                         00280000
              03   CHON-A PIC 9(6).                            00290000
              03   MAN-A PIC 9(6).                             00300000
              03   WOMAN-A PIC 9(6).                           00310000
          02  JENCHUL-B.                                       00320000
              03   CHON-B PIC 9(6).                            00330000
              03   MAN-B PIC 9(6).                             00340000
              03   WOMAN-B PIC 9(6).                           00350000
          02  JENIP-C.                                         00360000
              03   CHON-C PIC 9(6).                            00370000
              03   MAN-C PIC 9(6).                             00380000
              03   WOMAN-C PIC 9(6).                           00390000
          02  JENCHUL-D.                                       00400000
              03   CHON-D PIC 9(6).                            00410000
              03   MAN-D PIC 9(6).                             00420000
              03   WOMAN-D PIC 9(6).                           00430000
          02  CHERI.                                           00440000
              03   DNG PIC 9(5).                               00450000
              03   MAL PIC 9(5).                               00460000
          02  CHLSAM.                                          00470000
              03   CHL PIC 9(5).                               00480000
              03   SAM PIC 9(5).                               00490000
          02  JNGAM.                                           00500000
              03   JNG PIC 9(5).                               00510000
              03   GAM PIC 9(5).                               00520000
          02  KUM-INGU PIC 9(8).                               00530000
          02  KUBUN PIC 9.                                     00540000
      FD  T-F LABEL RECORD STANDARD BLOCK CONTAINS 25 RECORDS. 00550000
      01  T-R.                                                 00560000
          02  SYY PIC 99.                                      00570000
          02  SMM PIC 99.                                      00580000
          02  HENJEFG.                                         00590000
              03   SIDD PIC 99.                                00600000
              03   NXN PIC 99.                                 00610000
              03   GGU PIC 99.                                 00620000
```

```
    02  SEN-INGU PIC 9(8).                                                    00630000
    02  JENIP-S.                                                              00640000
        03   CHON-S PIC 9(6).                                                 00650000
        03   MAN-S PIC 9(6).                                                  00660000
        03   WOMAN-S PIC 9(6).                                                00670000
    02  JENCHUL-T.                                                            00680000
        03   CHON-T PIC 9(6).                                                 00690000
        03   MAN-T PIC 9(6).                                                  00700000
        03   WOMAN-T PIC 9(6).                                                00710000
    02  JENIP-U.                                                              00720000
        03   CHON-U PIC 9(6).                                                 00730000
        03   MAN-U PIC 9(6).                                                  00740000
        03   WOMAN-U PIC 9(6).                                                00750000
    02  JENCHUL-V.                                                            00760000
        03   CHON-V PIC 9(6).                                                 00770000
        03   MAN-V PIC 9(6).                                                  00780000
        03   WOMAN-V PIC 9(6).                                                00790000
    02  CHERB.                                                                00800000
        03   SDNG PIC 9(5).                                                   00810000
        03   SMAL PIC 9(5).                                                   00820000
    02  CHLSAMS.                                                              00830000
        03   SCHL PIC 9(5).                                                   00840000
        03   SSAM PIC 9(5).                                                   00850000
    02  JNGAMS.                                                               00860000
        03   SJNG PIC 9(5).                                                   00870000
        03   SGAM PIC 9(5).                                                   00880000
    02  SKUM-INGU PIC 9(8).                                                   00890000
    02  SKUBUN PIC 9.                                                         00900000
FD  P-F LABEL RECORD OMITTED.                                                 00910000
01  P-R PIC X(132).                                                          00920002
WORKING-STORAGE SECTION.                                                      00930000
77  I PIC 9(3) VALUE 0.                                                       00940000
77  L PIC 9(3) VALUE 0.                                                       00950000
77  M PIC 9(3) VALUE 0.                                                       00960000
77  N PIC 9(3) VALUE 0.                                                       00970000
77  K PIC 9(3) VALUE 0.                                                       00980000
77  J PIC 9(3) VALUE 0.                                                       00990000
77  S  PIC 9(3) VALUE 0.                                                      01000000
01  DNR-1 PIC X(28) VALUE "11212223243132333435363738399".                   01010000
01  DNR-2 REDEFINES DNR-1.                                                    01020000
    05  DN OCCURS 14 PIC 99.                                                  01030002
01  TTBLE.                                                                    01040000
    03  TA1 OCCURS 35.                                                        01050000
        04  TA2 OCCURS 3.                                                     01060000
            05   T1 PIC S9(8).                                                01070000
            05   T2 PIC S9(8).                                                01080000
            05   T3 PIC S9(8).                                                01090000
            05   T4 PIC S9(3)V999.                                            01100000
01  TITLE.                                                                    01110000
    03  TITLE-1 PIC X(118) VALUE "JENGUK SI-BUGUN-BU SEOUL BUSAN              01120000
-       "DAEGUINCHENKWANJUGEONGI SI-BUGUN-BUGANWON SI-BUGUN-BUCHU             01130000
-   "BUK SI-BUGUN-BUCHUNAM SI-BUGUN-".                                        01140000
    03  TITLE-2 PIC X(92) VALUE "BUJENBUK SI-BUGUN-BUJENNAM SI-BU             01150000
-       "GUN-BUGEOBUK SI-BUGUN-BUGEONAM SI-BUGUN-BU JE-JU SI-BUGU             01160000
-   "N-BU".                                                                   01170000
01  TOTLE REDEFINES TITLE.                                                    01180000
    03  TIT OCCURS 35 PIC X(6).                                               01190000
01  TOTOE.                                                                    01200000
    03  TOTOE-1 PIC X(83) VALUE "                                             01210000
-       "          #11  IN-MIGRANTS  BY  PROVINCE (86.  12 )".                01220007
01  TPTPE.                                                                    01230000
    03  TPTPE-1 PIC X(114) VALUE "                     TOTAL   IN-M           01240000
```

```
-       "IGRANTS              INTRA-PROVINCE                    01250000
-       "                 INTER-PROVINCE".                      01260000
01  TQTQE.                                                     01270000
    03  TQTQE-1 PIC X(119) VALUE "           1986      1985    01280000
-   ".  JUNGAM    IDRAT    1986      1985    JUNGAM    IDR     01290000
-   "AT    1986      1985    JUNGAM".                           01300000
    03  TQTQE-2 PIC X(10) VALUE "     IDRAT".                   01310000
01  PP-R.                                                      01320000
    03  F PIC X(3) VALUE SPACE.                                01330000
    03  GI PIC X(6).                                           01340000
    03  PP OCCURS 3.                                           01350000
        04   L1 PIC -(10).                                     01360003
        04   L2 PIC -(10).                                     01370003
        04   L3 PIC -(10).                                     01380003
        04   L4 PIC -(7)9.9.                                   01390003
PROCEDURE DIVISION.                                            01400000
    OPEN INPUT D-F T-F OUTPUT P-F.                             01410000
    MOVE ALL "0" TO TTBLE.                                     01420000
    MOVE SPACE TO P-R.                                         01430000
    WRITE P-R AFTER ADVANCING PPGE.                            01440000
    MOVE SPACE TO P-R.                                         01450000
    MOVE TOTOE TO P-R.                                         01460000
    WRITE P-R AFTER 1.                                         01470000
    MOVE SPACE TO P-R.                                         01480000
    MOVE TPTPE TO P-R.                                         01490000
    WRITE P-R AFTER 3.                                         01500000
    MOVE SPACE TO P-R.                                         01510000
    MOVE TQTQE TO P-R.                                         01520000
    WRITE P-R AFTER  2.                                        01530000
    MOVE SPACE TO P-R.                                         01540000
RD-RTN.                                                        01550000
    READ D-F AT END GO TO RR-RTN.                              01560000
    IF GUN = 99 GO TO RD-RTN.                                  01570000
    PERFORM 100 THRU XE VARYING I FROM 1 BY 1 UNTIL I > 14.    01580002
    GO TO JGAM-RTN.                                            01590000
100.                                                           01600000
    IF SIDO NOT = DN (I) GO TO XE.                             01610000
    IF SIDO = DN (I) IF I > 5 GO TO PP-RTN.                    01620004
    IF SIDO = DN (I) COMPUTE L = I + 3                         01630000
            ADD CHON-A TO T1 (L 1) T1 (1 1) T1 (2 1)           01640000
            GO TO JGAM-RTN.                                    01650000
PP-RTN.                                                        01660000
    COMPUTE M = I * 3 - 9                                      01670005
    ADD CHON-A TO T1 (M 1) T1 (1 1).                           01680000
    IF GUN < 31 COMPUTE N = I * 3 - 8                          01690005
            ADD CHON-A TO T1 (N 1) T1 (2 1)                    01700000
            GO TO JGAM-RTN.                                    01710000
     COMPUTE K = I * 3 - 7                                     01720005
     ADD CHON-A TO T1 (K 1) T1 (3 1)                           01730000
     GO TO JGAM-RTN.                                           01740000
XE. EXIT.                                                      01750000
JGAM-RTN.                                                      01760000
    PERFORM 200 THRU XX VARYING I FROM 1 BY 1 UNTIL I > 14.    01770002
    GO TO JGGM-RTN.                                            01780000
200.                                                           01790000
    IF SIDO NOT = DN (I) GO TO XX.                             01800000
    IF SIDO = DN (I) IF I > 5 GO TO PQ-RTN.                    01810004
    IF SIDO = DN (I)  COMPUTE L = I + 3                        01820000
            ADD CHON-C TO T1 (L 2) T1 (1 2) T1 (2 2)           01830000
            GO TO JGGM-RTN.                                    01840000
PQ-RTN.                                                        01850000
    COMPUTE M = I * 3 - 9                                      01860005
```

— 91 —

```
        ADD CHON-C TO T1 (M 2) T1 (1 2).                          01870000
        IF GUN < 31 COMPUTE N = I * 3 - 8                         01880005
                    ADD CHON-C TO T1 (N 2) T1 (2 2)               01890000
                    GO TO JGGM-RTN.                               01900000
              COMPUTE K = I * 3 - 7                               01910005
              ADD CHON-C TO T1 (K 2) T1 (3 2)                     01920000
              GO TO JGGM-RTN.                                     01930000
XX. EXIT.                                                         01940000
JGGM-RTN.                                                         01950000
        PERFORM 300 THRU XY VARYING I FROM 1 BY 1 UNTIL I > 14.   01960002
        GO TO RD-RTN.                                             01970000
300.                                                              01980000
        IF  SIDO NOT = DN (I) GO TO XY.                           01990000
        IF SIDO = DN (I) IF I > 5 GO TO PZ-RTN.                   02000004
        IF SIDO = DN (I) COMPUTE L = I + 3                        02010000
                    ADD MAN-C TO T1 (L 3) T1 (2 3) T1 (1 3)       02020000
                    ADD WOMAN-C TO T1 (L 3) T1 (2 3) T1 (1 3)     02030000
                    GO TO RD-RTN.                                 02040000
PZ-RTN.                                                           02050000
        COMPUTE M = I * 3 - 9                                     02060005
        ADD MAN-C TO T1 (M 3) T1 (1 3)                            02070000
        ADD WOMAN-C TO T1 (M 3) T1 (1 3).                         02080000
        IF GUN < 31 COMPUTE N = I * 3 - 8                         02090005
                    ADD MAN-C TO T1 (N 3) T1 (2 3)                02100000
                    ADD WOMAN-C TO T1 (N 3) T1 (2 3)              02110000
                    GO TO RD-RTN.                                 02120000
              COMPUTE K = I * 3 - 7                               02130005
              ADD MAN-C TO T1 (K 3) T1 (3 3)                      02140000
              ADD WOMAN-C TO T1 (K 3) T1 (3 3)                    02150000
              GO TO RD-RTN.                                       02160000
XY. EXIT.                                                         02170000
RR-RTN.                                                           02180000
        READ T-F AT END GO TO DD-RTN.                            02190000
        IF GGU = 99 GO TO RR-RTN.                                 02200000
        PERFORM 400 THRU XZ VARYING I FROM 1 BY 1 UNTIL I > 14.   02210002
        GO TO BB-RTN.                                             02220000
400.                                                              02230000
        IF  SIDD NOT = DN (I) GO TO XZ.                           02240000
        IF SIDD = DN (I) IF I > 5 GO TO RX-RTN.                   02250004
        IF SIDD = DN (I) COMPUTE L = I + 3                        02260000
                    ADD CHON-S TO T2 (L 1) T2 (2 1) T2 (1 1)      02270000
                    GO TO BB-RTN.                                 02280000
RX-RTN.                                                           02290000
        COMPUTE M = I * 3 - 9                                     02300005
        ADD CHON-S TO T2 (M 1) T2 (1 1).                          02310000
        IF GGU < 31 COMPUTE N = I * 3 - 8                         02320005
                    ADD CHON-S TO T2 (N 1) T2 (2 1)               02330000
                    GO TO BB-RTN.                                 02340000
              COMPUTE K = I * 3 - 7                               02350005
              ADD CHON-S TO T2 (K 1) T2 (3 1)                     02360000
              GO TO BB-RTN.                                       02370000
XZ. EXIT.                                                         02380000
BB-RTN.                                                           02390000
        PERFORM 500 THRU ZZ VARYING I FROM 1 BY 1 UNTIL I > 14.   02400002
        GO TO CC-RTN.                                             02410000
500.                                                              02420000
        IF  SIDD NOT = DN (I) GO TO ZZ.                           02430000
        IF SIDD = DN (I) IF I > 5 GO TO RG-RTN.                   02440004
        IF SIDD = DN (I) COMPUTE L = I + 3                        02450000
                    ADD CHON-U TO T2 (L 2) T2 (2 2) T2 (1 2)      02460000
                    GO TO CC-RTN.                                 02470000
RG-RTN.                                                           02480000
```

```
            COMPUTE M = I * 3 - 9                                        02490005
            ADD CHON-U TO T2 (M 2) T2 (1 2).                             02500000
            IF GGU < 31 COMPUTE N = I * 3 - 8                            02510005
                        ADD CHON-U TO T2 (N 2) T2 (2 2)                  02520000
                        GO TO CC-RTN.                                    02530000
            COMPUTE K = I * 3 - 7                                        02540005
            ADD CHON-U TO T2 (K 2) T2 (3 2)                              02550000
            GO TO CC-RTN.                                                02560000
ZZ. EXIT.                                                                02570000
CC-RTN.                                                                  02580000
    PERFORM 600 THRU YY VARYING I FROM 1 BY 1 UNTIL I > 14.             02590002
    GO TO RR-RTN.                                                        02600000
600.                                                                     02610000
    IF SIDD NOT = DN (I) GO TO YY.                                       02620000
    IF SIDD = DN (I) IF I > 5 GO TO MR-RTN.                              02630004
    IF SIDD = DN (I) COMPUTE L = I + 3                                   02640000
                     ADD MAN-U TO T2 (L 3) T2 (2 3) T2 (1 3)            02650000
                     ADD WOMAN-U TO T2 (L 3) T2 (2 3) T2 (1 3)          02660000
                     GO TO RR-RTN.                                       02670000
MR-RTN.                                                                  02680000
    COMPUTE M = I * 3 - 9                                                02690005
    ADD MAN-U TO T2 (M 3) T2 (1 3)                                       02700000
    ADD WOMAN-U TO T2 (M 3) T2 (1 3).                                    02710000
    IF GGU < 31 COMPUTE N = I * 3 - 8                                    02720005
                ADD MAN-U TO T2 (N 3) T2 (2 3)                          02730000
                ADD WOMAN-U TO T2 (N 3) T2 (2 3)                        02740000
                GO TO RR-RTN.                                            02750000
    COMPUTE K = I * 3 - 7                                                02760005
        ADD MAN-U TO T2 (K 3) T2 (3 3)                                  02770000
        ADD WOMAN-U TO T2 (K 3) T2 (3 3)                                02780000
        GO TO RR-RTN.                                                    02790000
YY. EXIT.                                                                02800000
DD-RTN.                                                                  02810000
    PERFORM 700 VARYING I FROM 1 BY 1 UNTIL I > 35.                     02820000
    GO TO EE-RTN.                                                        02830000
700.                                                                     02840000
    COMPUTE T3 (I 1) = T1 (I 1) - T2 (I 1).                             02850000
EE-RTN.                                                                  02860000
    PERFORM 800 VARYING I FROM 1 BY 1 UNTIL I > 35.                     02870000
    GO TO FF-RTN.                                                        02880000
800.                                                                     02890000
    COMPUTE T3 (I 2) = T1 (I 2) - T2 (I 2).                             02900000
FF-RTN.                                                                  02910000
    PERFORM 900 VARYING I FROM 1 BY 1 UNTIL I > 35.                     02920000
    GO TO GG-RTN.                                                        02930000
900.                                                                     02940000
    COMPUTE T3 (I 3) = T1 (I 3) - T2 (I 3).                             02950000
GG-RTN.                                                                  02960000
    PERFORM 11 THRU EX1 VARYING I FROM 1 BY 1 UNTIL I > 35.             02970000
    GO TO HH-RTN.                                                        02980000
11.                                                                      02990000
    IF T2 (I 1) = 0 MOVE 0 TO T4 (I 1) GO TO EX1.                       03000000
    COMPUTE T4 (I 1) ROUNDED = T3 (I 1) / T2 (I 1).                     03010000
    COMPUTE T4 (I 1) = T4 (I 1) * 100.                                  03020000
EX1. EXIT.                                                               03030000
HH-RTN.                                                                  03040000
    PERFORM 22 THRU EX2 VARYING I FROM 1 BY 1 UNTIL I > 35.             03050000
    GO TO II-RTN.                                                        03060000
22.                                                                      03070000
    IF T2 (I 2) = 0 MOVE 0 TO T4 (I 2) GO TO EX2.                       03080000
    COMPUTE T4 (I 2) ROUNDED = T3 (I 2) / T2 (I 2).                     03090000
    COMPUTE T4 (I 2) = T4 (I 2) * 100.                                  03100000
```

— 93 —

```
        EX2. EXIT.                                                           03110000
        II-RTN.                                                              03120000
            PERFORM 33 THRU EX3 VARYING I FROM 1 BY 1 UNTIL I > 35.          03130000
            GO TO PR-RTN.                                                    03140000
        33.                                                                  03150000
            IF T2 (I 3) = 0 MOVE 0 TO T4 (I 3) GO TO EX3.                    03160000
            COMPUTE T4 (I 3) ROUNDED = T3 (I 3) / T2 (I 3).                  03170000
            COMPUTE T4 (I 3) = T4 (I 3) * 100.                               03180000
        EX3. EXIT.                                                           03190000
        PR-RTN.                                                              03200000
            MOVE 0 TO I L M N K.                                             03210000
            PERFORM 444 THRU QQ VARYING I FROM 1 BY 1 UNTIL I > 35.          03220000
            GO TO CLO-RTN.                                                   03230000
        444.                                                                 03240000
            MOVE SPACE TO P-R.                                               03250000
            MOVE TIT (I) TO GI.                                              03260000
            WRITE P-R AFTER 1.                                              03270000
            PERFORM 55 VARYING J FROM 1 BY 1 UNTIL J > 3.                    03280000
            WRITE P-R FROM PP-R AFTER 1.                                     03290000
            MOVE SPACE TO GI.                                                03300000
            MOVE SPACE TO P-R.                                               03310000
        QQ. EXIT.                                                            03320000
        55.                                                                  03330000
            MOVE T1 (I J) TO L1 (J)                                          03340000
            MOVE T2 (I J) TO L2 (J)                                          03350000
            MOVE T3 (I J) TO L3 (J)                                          03360000
            MOVE T4 (I J) TO L4 (J).                                         03370000
        CLO-RTN.                                                             03380000
            CLOSE D-F  T-F P-F.                                              03390000
            STOP RUN.                                                        03400000
    /*                                                                       03410000
//GO.SYSPRINT DD SYSOUT=*                                                    03420000
//GO.INPUT DD UNIT=DISK,DSN=A49.VO.WEG(DE861),                              03430008
//          DISP=(OLD,KEEP),VOL=SER=BOS242                                   03440000
//GO.INPUU DD UNIT=DISK,DSN=A49.VO.WED(DE851K),VOL=SER=BOS242,              03450008
//          DISP=(OLD,KEEP)                                                  03460000
//GO.OUTPUT DD SYSOUT=*                                                      03470002
//GO.SYSOUT DD SYSOUT=*                                                      03480000
//GO.SYSDBOUT DD SYSOUT=*                                                    03490000
//                                                                           03500000
```

```
//A49VOWTC JOB CLASS=A,MSGCLASS=X,NOTIFY=A49              00010001
//STEP1 EXEC COBUCLG                                     00020001
//COB.SYSIN DD *                                         00030001
       ID  DIVISION.                                     00040001
       PROGRAM-ID.  TABLE17.                             00050001
       ENVIRONMENT DIVISION.                             00060001
       CONFIGURATION SECTION.                            00070001
       SPECIAL-NAMES.                                    00080001
           C01 IS PPGE.                                  00090001
       INPUT-OUTPUT SECTION.                             00100001
       FILE-CONTROL.                                     00110001
           SELECT D-F ASSIGN DA-S-INPUT.                 00120001
           SELECT P-F ASSIGN UT-S-OUTPUT.                00130001
       DATA DIVISION.                                    00140001
       FILE SECTION.                                     00150001
       FD  D-F BLOCK CONTAINS 25 RECORDS                 00160001
               LABEL RECORD STANDARD.                    00170001
       01  D-R.                                          00180001
           03 F              PIC  X(4).                  00190001
           03  DO            PIC 99.                     00200001
           03 F              PIC XX.                     00210001
           03 GUN            PIC 99.                     00220001
           03  F             PIC X(8).                   00230001
           03 JIPCHONG       PIC 9(6).                   00240001
           03 F              PIC X(12).                  00250001
           03  JCHLCHONG     PIC 9(6).                   00260001
           03  F             PIC  X(12).                 00270001
           03  JIPDOIN       PIC 9(6).                   00280001
           03 JIPDOOUT       PIC 9(6).                   00290001
           03 JIPABROAD      PIC 9(6).                   00300001
           03  JCHULDOIN     PIC 9(6).                   00310001
           03  JCHULDOOUT    PIC 9(6).                   00320001
           03  JABROAD       PIC 9(6).                   00330001
           03  F          PIC X(39).                     00340001
       FD  P-F LABEL RECORD OMITTED.                     00350001
       01  P-R              PIC  X(132).                 00360001
       WORKING-STORAGE SECTION.                          00370001
       77  I              PIC  9(2) VALUE 0.             00380001
       77  J              PIC  9(2) VALUE 0.             00390001
       77  K              PIC  9(2) VALUE 0.             00400001
       77  L              PIC  9(2) VALUE 0.             00410001
       77  M              PIC  9(2) VALUE 0.             00420001
       77  N              PIC  9(2) VALUE 0.             00430001
       01  COM.                                          00440001
           03  COM1       PIC 99.                        00450001
           03  COM2       PIC 99.                        00460001
       01  TAB1 VALUE ZEROS.                             00470001
           03  TA    OCCURS 9 PIC S9(8).                 00480001
       01  TAB2 VALUE ZEROS.                             00490001
           03  TB    OCCURS 9 PIC S9(8).                 00500001
       01  TAB3 VALUE ZEROS.                             00510001
           03  TC    OCCURS 9 PIC S9(8).                 00520001
       01  TAB4 VALUE ZEROS.                             00530001
           03  TD    OCCURS 9 PIC S9(8).                 00540001
       01  LIST.                                         00550001
           03  F PIC X(5) VALUE SPACE.                   00560001
           03  GU   PIC X(5).                            00570001
           03  AA   OCCURS 9 PIC  -(11).                 00580001
       01  TOTOE.                                        00590001
           03  TO-1 PIC X(71) VALUE "                    00600001
       -       "# 17  MIGRANTS BY SI AND GUN ( 82.)".    00610001
       01  TPTPE.                                        00620001
```

— 95 —

```
        03  TP-1 PIC X(100) VALUE "                    IN-MIGRANTS      00630001
    "                         OUT-MIGRANTS                      NET-      00640001
-       "MIGRATION ".                                                     00650001
 01  TQTQE.                                                               00660001
        03  TQ-1 PIC X(109) VALUE "                    TOTAL     INTRA    00670001
-       "  INTER      TOTAL      INTRA      INTER     TOTAL               00680001
-       "  INTRA      INTER".                                             00690001
 PROCEDURE DIVISION.                                                      00700001
     OPEN INPUT D-F OUTPUT P-F.                                           00710001
     MOVE SPACE TO P-R.                                                   00720001
     WRITE P-R AFTER ADVANCING PPGE.                                      00730001
     MOVE SPACE TO P-R.                                                   00740001
     MOVE TOTOE TO P-R.                                                   00750001
     WRITE P-R AFTER 1.                                                   00760001
     MOVE SPACE TO P-R.                                                   00770001
     MOVE TPTPE TO P-R.                                                   00780001
     WRITE P-R AFTER 3.                                                   00790001
     MOVE SPACE TO P-R.                                                   00800001
     MOVE TQTQE TO P-R.                                                   00810001
     WRITE P-R AFTER 2.                                                   00820001
     MOVE SPACE TO P-R.                                                   00830001
     WRITE P-R AFTER 1.                                                   00840001
     MOVE SPACE TO P-R.                                                   00850001
 RD-RTN.                                                                  00860001
     READ D-F AT END GO TO PRT-RTN.                                       00870001
     IF GUN = 99 GO TO RD-RTN.                                            00880001
     MOVE DO TO M COM1.                                                   00890001
     MOVE GUN TO N COM2.                                                  00900001
     GO TO 10.                                                            00910001
 READ-RTN.                                                                00920001
     READ D-F AT END GO TO PRT-RTN.                                       00930001
     IF GUN = 99 GO TO READ-RTN.                                          00940001
     IF DO NOT = M GO TO 100.                                             00950001
     IF GUN NOT = N GO TO 200.                                            00960001
 10. IF GUN < 30                                                          00970001
     ADD JIPCHONG TO TA (1) TB (1) TD (1)                                 00980001
     ADD JIPDOIN  TO TA (2) TB (2) TD (2)                                 00990001
     ADD JIPDOOUT JIPABROAD TO TA (3) TB (3) TD (3)                       01000001
     ADD JCHLCHONG  TO TA (4) TB (4) TD (4)                               01010001
     ADD JCHULDOIN  TO TA (5) TB (5) TD (5)                               01020001
     ADD JCHULDOOUT JABROAD TO TA (6) TB (6) TD (6)                       01030001
     ELSE                                                                 01040001
     ADD JIPCHONG TO TA(1)   TC (1) TD (1)                                01050001
     ADD JIPDOIN TO TA(2)    TC(2)   TD(2)                                01060001
     ADD JIPDOOUT JIPABROAD TO TA(3) TC(3) TD(3)                          01070001
     ADD JCHLCHONG TO TA(4)  TC(4) TD(4)                                  01080001
     ADD JCHULDOIN TO TA(5)  TC(5) TD(5)                                  01090001
     ADD JCHULDOOUT JABROAD TO TA(6) TC(6) TD(6).                         01100001
     COMPUTE  TA(7) = TA(1) - TA(4).                                      01110001
     COMPUTE  TA(8) = TA(2) - TA(5).                                      01120001
     COMPUTE TA(9) = TA(3) - TA(6).                                       01130001
     COMPUTE TB(7) = TB(1) - TB(4).                                       01140001
     COMPUTE TB(8) = TB(2) - TB(5).                                       01150001
     COMPUTE TB(9) = TB(3) - TB(6).                                       01160001
     COMPUTE TC(7) = TC(1) - TC(4).                                       01170001
     COMPUTE TC(8) = TC(2) - TC(5).                                       01180001
     COMPUTE TC(9) = TC(3) - TC(6).                                       01190001
     COMPUTE TD(7) = TD(1) - TD(4).                                       01200001
     COMPUTE TD(8) = TD(2) - TD(5).                                       01210001
     COMPUTE TD(9) = TD(3) - TD(6).                                       01220001
     GO TO READ-RTN.                                                      01230001
  200.                                                                    01240001
```

```
            IF K = 1 GO TO 30.                                           01250001
            IF COM2 > 30 PERFORM 50 MOVE 1 TO K.                         01260001
        30. MOVE COM TO GU.                                              01270001
            PERFORM A1           VARYING I FROM 1 BY 1 UNTIL I > 9.      01280001
            WRITE P-R FROM LIST AFTER 2.                                 01290001
            MOVE SPACE TO P-R.  MOVE ALL "0" TO TAB1. MOVE GUN TO N COM2.01300001
        40. GO TO 10.                                                    01310001
        50. MOVE "S1" TO GU.                                             01320001
            PERFORM A2           VARYING I FROM 1 BY 1 UNTIL I > 9.      01330001
            WRITE P-R FROM LIST AFTER 2.                                 01340001
            MOVE SPACE TO P-R.                                           01350001
            MOVE ALL "0" TO TAB2.                                        01360001
        A1. MOVE TA (I) TO AA (I).                                       01370001
        A2. MOVE TB (I) TO AA (I).                                       01380001
        100.                                                             01390001
            IF N = 11 PERFORM 30 GO TO 60.                               01400001
            IF N = 21 PERFORM 30 GO TO 60.                               01410001
        20. PERFORM 30.  MOVE "GUN" TO GU.                               01420001
            PERFORM A3           VARYING I FROM 1 BY 1 UNTIL I > 9.      01430001
            WRITE P-R FROM LIST AFTER 2.                                 01440001
            MOVE SPACE TO P-R.                                           01450001
            MOVE ALL "0" TO TAB3.                                        01460001
        60.                                                              01470001
            MOVE "TOTAL" TO GU.                                          01480001
            PERFORM A4           VARYING I FROM 1 BY 1 UNTIL I > 9.      01490001
            WRITE P-R FROM LIST AFTER 2.                                 01500001
            MOVE SPACE TO P-R.                                           01510001
        70. MOVE DO TO M COM1.                                           01520001
            MOVE GUN TO N COM2.                                          01530001
            MOVE ALL "0" TO TAB2 TAB3 TAB4.                              01540001
            MOVE 0 TO K.                                                 01550001
            GO TO 10.                                                    01560001
        A3. MOVE TC (I) TO AA (I).                                       01570001
        A4. MOVE TD (I) TO AA (I).                                       01580001
        PRT-RTN.                                                         01590001
            PERFORM 20 THRU 60.                                          01600001
            CLOSE D-F P-F.                                               01610001
            STOP RUN.                                                    01620001
/*                                                                       01630001
//GO.SYSPRINT DD SYSOUT=*                                               01640001
//GO.INPUT DD UNIT=SYSDA,DSN=A49.VO.WEG(JA861),VOL=SER=BOS456,          01650001
//          DISP=(OLD,KEEP)                                             01660001
//*GO.INPUT DD UNIT=TAPE,DSN=A491,VOL=SER=TN6067,DISP=(OLD,KEEP),       01670001
//*         DCB=(LRECL=129,RECFM=FB,BLKSIZE=3225),LABEL=(2,BLP)         01680001
//GO.OUTPUT DD SYSOUT=*                                                 01690001
//GO.SYSOUT DD SYSOUT=*                                                 01700001
/*                                                                       01710001
//                                                                       01720001
```

```
//A49VOT2A JOB CLASS=A,MSGCLASS=X,NOTIFY=A49,USER=A49              00010007
//STEP1 EXEC PLIFCLG          *1   WOL SET-TABLE2,6 *              00020007
//PLI.SYSIN DD *                                                  00030007
* PROCESS GS,NEST,OPT(2),OFFSET;                                  00040007
    /*** THIS PROGRAM IS MADE BY LEE JEONG SOOK ***/              00050007
  LEE:      PROC OPTIONS(MAIN);                                   00060007
     DCL   INF  FILE RECORD INPUT;                                00070007
     DCL   1 IN,                                                  00080007
           2 YEAR PIC '99',                                       00090007
           2 MONTH PIC '99',                                      00100007
           2 HAENG  PIC '(4)9',                                   00110007
           2 NON    PIC '99',                                     00120007
           2 JEN   PIC '(4)9',                                    00130007
           2 TB  PIC '(6)9',                                      00140007
           2 F1 CHAR(109);                                        00150007
     DCL   INF2 FILE RECORD INPUT;                                00160007
     DCL   1 INR,                                                 00170007
           2 CYEAR PIC '99',                                      00180007
           2 CMONTH PIC '99',                                     00190007
           2 CHAENG  PIC '(4)9',                                  00200007
           2 CNON    PIC '99',                                    00210007
           2 CJEN  PIC '(4)9',                                    00220007
           2 CTB  PIC '(6)9',                                     00230007
           2 F2 CHAR(109);                                        00240007
     DCL OUTF FILE RECORD OUTPUT; /* ******SUMMARY OUT TAPE *** */ 00250007
     DCL 1 OUT,                                                   00260007
           2 OMM(24,3,8) FIXED (9);                               00270007
     DCL   CIT1  PIC '99' DEF HAENG; /* ** HAENG JEONG CIDO ** */ 00280007
     DCL   CITA  PIC '99' DEF CHAENG; /* ** HAENG JEONG CIDO ** */ 00290007
     DCL   GOO1  PIC '99' DEF HAENG POSITION(3);  /* ** GOO ** */ 00300007
     DCL   GOOA  PIC '99' DEF CHAENG POSITION(3);  /* ** GOO ** */ 00310007
     DCL   CIT2  PIC '99' DEF JEN; /* ** JEON GE  JOO JI CIDO ** */ 00320007
     DCL   CITB  PIC '99' DEF CJEN;  /* ** JEON GE  JOO JI CIDO ** */ 00330007
     DCL   GOO2 PIC '99' DEF JEN POSITION(3); /* GE JOO JI GOO ** */ 00340007
     DCL   GOOB PIC '99' DEF CJEN POSITION(3); /* GE JOO JI GOO ** */ 00350007
     DCL TAB2(6) PIC '9999' INIT(2211,2311,2411,3400,3511,3811);  00360007
     DCL    TAB3(6)  PIC '9999' INIT(2201,2301,2401,3401,3501,3801); 00370007
     DCL    HDP CHAR(80) INIT('WHOLESEOULBUSANDAEGUINCHEKWANJGYEGIGWEONC 00380007
HBUGCHNAMJEBUGJENAMGYBUGGYNAMJE-JUOTHER');                        00390007
     DCL    HD1(16) CHAR(5) DEF HDP;                              00400007
     DCL    TAB1(15) PIC '99' INIT(11,21,22,23,24,31,32,33,34,35,36,37,3 00410007
8,39,40);                                                        00420007
     DCL (QA,QB) FIXED DEC (10,1);                                00430007
     DCL  ARRY(24,3,8) FIXED DEC (10,2) INIT((576)0);             00440007
     DCL HDPP CHAR(54) INIT(' TOTAL SEOUL BUSAN DAEGUINCHENKWANJUDAEJEN  00450007
JEONJU MASAN');                                                  00460007
     DCL   HD2(9) CHAR(6) DEF HDPP;                               00470007
     DCL   HD3(3) CHAR(3) INIT('IN ','OUT','NET');                00480007
     DCL  (WK,WY,WP)   FIXED DEC(2);                              00490007
     ON ENDFILE(INF) GO TO RR_RTN;                                00500007
     ON ENDFILE(INF2) GO TO ERR;                                  00510007
     OPEN FILE(SYSPRINT) LINESIZE(132);                           00520007
          WK=01;  WY=86;  WP=85; /******YEAR, MONTH*******/       00530007
     READ: READ FILE(INF) INTO(IN);                               00540007
          IF NON > 28 THEN GO TO READ;                            00550007
          IF CIT1 = 22 | CIT1 = 23 | CIT1 = 24 THEN GOO1 = 11;    00560007
          IF MONTH ¬=WK THEN GO TO NOT_MONTH;                     00570007
  /* ********************************************************** */ 00580007
  /* **********   WHEN SAME MONTH    ************************** */ 00590007
  /* ********************************************************** */ 00600007
          I=2;                                                    00610007
          DO N=1 TO 14;                                           00620007
```

— 98 —

```
          IF CIT1=TAB1(N) THEN GO TO MATC1; /* MATCH TO HAENG-CIDO */     00630007
          I=I+1;                                                          00640007
          END;                                                            00650007
MATC1:  J=1;                                                              00660007
          K=0;                                                            00670007
          CALL SUB;      /* ADD TO TABLE 2 INCOME, MONTH */               00680007
          K=4;                                                            00690007
          CALL SUB;      /* ADD TO TABLE 2 INCOME, SUM */                 00700007
        I=2;                                                              00710007
        DO N=1 TO 14;                                                     00720007
        IF CIT2=TAB1(N) THEN GO TO MATC2; /* MATCH TO JEON GE JOO JI */   00730007
        I=I+1;                                                            00740007
        END;                                                             00750007
MATC2:  J=2;                                                              00760007
          K=0;                                                            00770007
          CALL SUB; /* ADD TO TABLE 2 OUT, MONTH */                       00780007
          K=4;                                                            00790007
          CALL SUB; /* ADD TO TABLE 2 OUT, SUM ** */                      00800007
/* ******** TABULATION 6    ***************************** */              00810007
/* ********       INCOME     ***************************** */             00820007
          IF CIT1=11 THEN DO;      /* ** SEOUL ** */                      00830007
              I=17;                                                       00840007
              GO TO MAT1;                                                 00850007
              END;                                                        00860007
          IF CIT1=21 THEN DO;      /* ** PUSAN ** */                      00870007
              I=18;                                                       00880007
              GO TO MAT1;                                                 00890007
              END;                                                        00900007
        I=19;                                                             00910007
        DO N=1 TO 6;                                                      00920007
        IF HAENG = TAB2(N) THEN GO TO MAT1; /* MATCH TO CIDO */           00930007
        I=I+1;                                                            00940007
        END;                                                              00950007
        GO TO CC;                   /* NOT MATCH TO CIDO */               00960007
MAT1:  J=1;                                                               00970007
          K=0;                                                            00980007
          CALL SUB;  /* ADD TO MONTH */                                   00990007
          K=4;                                                            01000007
          CALL SUB;  /* ADD TO SUM */                                     01010007
/* ********    OUT    ****************************************** */       01020007
CC:  IF CIT2=11 THEN DO;    /* ** SEOUL ** */                             01030007
              I=17;                                                       01040007
              GO TO MAT2;                                                 01050007
              END;                                                        01060007
        IF CIT2=21 THEN DO;  /* ** PUSAN ** */                            01070007
              I=18;                                                       01080007
              GO TO MAT2;                                                 01090007
              END;                                                        01100007
        I=19;                                                             01110007
        DO N=1 TO 6;                                                      01120007
        IF JEN = TAB3(N) THEN GO TO MAT2;  /* MATCH TO CIDO */            01130007
        I=I+1;                                                            01140007
        END;                                                              01150007
        GO TO READ;               /* NOT MATCH TO CIDO */                 01160007
  MAT2: J=2;                                                              01170007
      K=0;                                                                01180007
        CALL SUB; /* ADD TO MONTH */                                      01190007
          K=4;                                                            01200007
          CALL SUB; /* ADD TO SUM */                                      01210007
          GO TO READ;                                                     01220007
/*  ********************************************************** */         01230007
/* * ************** WHEN NOT SAME MONTH  ***************** */              01240007
```

— 99 —

```
/*NOT_MONTH*************************************************** */          01250007
                                                                          01260007
    IF MONTH >WK THEN GO TO READ;  /* GREATER THEN MONTH */               01270007
    I=2;                                                                  01280007
    DO N=1 TO 14;                                                         01290007
    IF CIT1=TAB1(N) THEN GO TO MA1; /* MATCH TO HAENG-CIDO */             01300007
    I=I+1;                                                                01310007
    END;                                                                  01320007
MA1: J=1;                                                                 01330007
    K=4;                                                                  01340007
    CALL SUB;  /* *** ADD TO INCOME SUM *** */                           01350007
    I=2;                                                                  01360007
    DO N=1 TO 14;                                                         01370007
    IF CIT2= TAB1(N) THEN GO TO MA2;  /* MATCH TO JEON-CIDO */            01380007
    I=I+1;                                                                01390007
    END;                                                                  01400007
MA2:  J=2;                                                                01410007
    K=4;                                                                  01420007
    CALL SUB;   /* ** ADD TO OUT SUM ** */                               01430007
 /* ************** TABULATION 6  ************************************ */   01440007
 /* ************** I N C O M E   ************************************ */   01450007
    IF  CIT1=11 THEN DO;    /* ** SEOUL ** */                             01460007
            I=17;                                                        01470007
          GO TO MA21;                                                    01480007
            END;                                                          01490007
    IF  CIT1=21 THEN DO;  /* ** PUSAN ** */                              01500007
            I=18;                                                        01510007
            GO TO MA21;                                                  01520007
            END;                                                          01530007
    I=19;                                                                 01540007
    DO N=1 TO 6;                                                          01550007
    IF HAENG=TAB2(N) THEN GO TO MA21; /* MATCH TO CIDO */                01560007
    I=I+1;                                                                01570007
    END;                                                                  01580007
    GO TO DD;           /* NOT MATCH TO CIDO */                          01590007
MA21: J=1;                                                                01600007
    K=4;                                                                  01610007
    CALL SUB;  /* ** ADD TO INCOME SUM ** */                             01620007
 /* ************** O U T   ****************************************** */   01630007
DD:   IF CIT2=11 THEN DO;  /* ** SEOUL ** */                             01640007
             I=17;                                                       01650007
             GO TO MA22;                                                 01660007
             END;                                                         01670007
    IF CIT2=21 THEN DO; /* ** PUSAN ** */                                01680007
         I=18;                                                           01690007
             GO TO MA22;                                                 01700007
             END;                                                         01710007
    I=19;                                                                 01720007
    DO N=1 TO 6;                                                          01730007
    IF JEN=TAB3(N) THEN GO TO MA22; /* MATCH TO CIDO */                  01740007
    I=I+1;                                                                01750007
    END;                                                                  01760007
    GO TO READ;             /* NOT MATCH TO CIDO */                      01770007
MA22: J=2;                                                                01780007
    K=4;                                                                  01790007
    CALL SUB; /* ** ADD TO OUT SUM ** */                                 01800007
    GO TO READ;                                                           01810007
SUB: PROC;                                                                01820007
    IF YEAR = WY THEN K=K+1;                                              01830007
            ELSE IF YEAR = WP THEN K=K+2;                                 01840007
                        ELSE DO;                                          01850007
                        PUT DATA(IN);                                     01860007
```

```
                       GO TO EN;                                                      01870007
                       END;                                                           01880007
         ARRY(I,J,K)=ARRY(I,J,K)+TB;                                                  01890007
         END SUB;                                                                     01900007
/* ***************************************************************** */               01910007
/* ********TAPE READ - JEON YEAR NU JEK ************************** */                  01920007
/* ***************************************************************** */               01930007
     RR_RTN: READ FILE(INF2) INTO(INR);                                               01940007
         IF CNON >28 THEN GO TO RR_RTN;                                               01950007
         IF CITA = 22 | CITA = 23 THEN GOOA = 11;                                     01960007
         IF CMONTH ¬=WK THEN GO TO NTT_MONTH;                                         01970007
/* ***************************************************************** */               01980007
/* ********WHEN SAME MONTH      ************************************ */                01990007
/* ***************************************************************** */               02000007
         I=2;                                                                         02010007
         DO N=1 TO 14;                                                                02020007
         IF CITA=TAB1(N) THEN GO TO MATCA; /* MATCH TO HAENG-CITO */                  02030007
         I=I+1;                                                                       02040007
         END ;                                                                        02050007
MATCA:   J=1;                                                                         02060007
         K=0;                                                                         02070007
         CALL SSUB;  /* ADD TO TABLE 2 INCOME, MONTH */                               02080007
         K=4;                                                                         02090007
         CALL SSUB;  /* ADD TO TABLE 2 INCOME, SUM */                                 02100007
         I=2;                                                                         02110007
         DO N=1 TO 14;                                                                02120007
         IF CITB=TAB1(N) THEN GO TO MATCB; /* MATCH TO JEON GE JOO JI */              02130007
         I=I+1;                                                                       02140007
         END ;                                                                        02150007
MATCB:   J=2;                                                                         02160007
         K=0;                                                                         02170007
         CALL SSUB; /* ADD TO TABLE 2 OUT, MONTH */                                   02180007
         K=4;                                                                         02190007
         CALL SSUB; /* ADD TO TABLE 2 OUT,SUM ** */                                   02200007
/* *************TABULATION 6     ********************************** */                 02210007
/* **************       INCOME    ********************************* */                02220007
         IF CITA=11 THEN DO ; /* ** SEOUL ** */                                       02230007
         I=17;                                                                        02240007
         GO TO MATA;                                                                  02250007
         END ;                                                                        02260007
         IF CITA=21 THEN DO ; /* ** PUSAN ** */                                       02270007
         I=18;                                                                        02280007
         GO TO MATA;                                                                  02290007
         END ;                                                                        02300007
     I=19;                                                                            02310007
     DO N=1 TO 6;                                                                     02320007
     IF CHAENG = TAB2(N) THEN GO TO MATA; /* MATCH TO CIDO */                         02330007
     I=I+1;                                                                           02340007
     END ;                                                                            02350007
     GO TO SCC ;                                                                      02360007
MATA: J=1;                                                                            02370007
K=0;                                                                                  02380007
CALL SSUB; /* ADD TO MONTH */                                                         02390007
K=4;                                                                                  02400007
CALL SSUB; /* ADD TO SUM */                                                           02410007
/* ********  OUT   ********************************** */                              02420007
SCC: IF CITB=11 THEN DO ; /* ** SEOUL ** */                                           02430007
     I=17;                                                                            02440007
     GO TO MATB;                                                                      02450007
     END ;                                                                            02460007
     IF CITB=21 THEN DO ; /* ** PUSAN ** */                                           02470007
     I=18;                                                                            02480007
```

— 101 —

```
        GO TO MATB;                                                 02490007
        END ;                                                       02500007
        I=19;                                                       02510007
        DO N=1 TO 6;                                                02520007
        IF CJEN = TAB3(N) THEN GO TO MATB;   /* MATCH TO CIDO */    02530007
        I=I+1;                                                      02540007
        END ;                                                       02550007
        GO TO RR_RTN ;                                              02560007
        MATB: J=2;                                                  02570007
        K=0;                                                        02580007
        CALL SSUB; /* ADD TO MONTH */                              02590007
        K=4;                                                        02600007
        CALL SSUB; /* ADD TO SUM */                               02610007
     .  GO TO RR_RTN;                                               02620007
/* ****************************************************** */        02630007
/* *********WHEN NOT SAME MONTH  ********************* */           02640007
/* ****************************************************** */        02650007
NTT_MONTH:                                                          02660007
        IF CMONTH > WK THEN GO TO RR_RTN ; /* GREATER THEN MONTH */ 02670007
        I=2;                                                        02680007
        DO N=1 TO 14;                                               02690007
        IF CITA=TAB1(N) THEN GO TO MAA; /* MATCH TO HAENG-CIDO */   02700007
        I=I+1;                                                      02710007
        END ;                                                       02720007
MAA: J=1;                                                           02730007
        K=4;                                                        02740007
        CALL SSUB;  /* *** ADD TO INCOME SUM *** */               02750007
        I=2;                                                        02760007
        DO N=1 TO 14;                                               02770007
        IF CITB= TAB1(N) THEN GO TO MAB; /* MATCH TO JEON-CIDO */   02780007
        I=I+1;                                                      02790007
        END ;                                                       02800007
MAB:  J=2;                                                          02810007
        K=4;                                                        02820007
        CALL SSUB;  /* ** ADD TO OUT SUM ** */                    02830007
/*********************** TABULATION 6 *********************** */    02840007
/*********************** I N C O M E  *********************** */    02850007
        IF CITA=11 THEN DO ;  /* ** SEOUL ** */                   02860007
          I=17;                                                     02870007
          GO TO MA2A;                                              02880007
        . END;                                                     02890007
        IF CITA=21 THEN DO ; /* ** PUSAN ** */                    02900007
          I=18;                                                     02910007
          GO TO MA2A;                                              02920007
          END;                                                     02930007
        I=19;                                                       02940007
        DO N=1 TO 6;                                                02950007
        IF CHAENG=TAB2(N) THEN GO TO MA2A; /* MATCH TO CIDO */     02960007
        I=I+1 ;                                                     02970007
        END ;                                                       02980007
        GO TO SDD ;        /* NOT MATCH TO CIDO */                02990007
MA2A: J=1;                                                          03000007
        K=4;                                                        03010007
        CALL SSUB;  /* ** ADD TO INCOME SUM ** */                 03020007
/* ************** O U T   *********************************** */    03030007
SDD:    IF CITB=11 THEN DO ; /* ** SEOUL ** */                    03040007
          I=17;                                                     03050007
          GO TO MA2B;                                              03060007
          END ;                                                     03070007
        IF CITB=21 THEN DO; /* ** PUSAN ** */                     03080007
          I=18;                                                     03090007
          GO TO MA2B;                                              03100007
```

```
                END ;                                                   03110007
           I=19;                                                        03120007
           DO N=1 TO 6;                                                 03130007
           IF CJEN=TAB3(N) THEN GO TO MA2B; /* MATCH TO CIDO */         03140007
           I=I+1;                                                       03150007
           END ;                                                        03160007
           GO TO RR_RTN ;          /* NOT MATCH TO CIDO */              03170007
     MA2B: J=2;                                                         03180007
           K=4;                                                         03190007
           CALL SSUB; /* ** ADD TO OUT SUM ** */                       03200007
           GO TO RR_RTN;                                                03210007
       SSUB: PROC ;                                                     03220007
           IF CYEAR = WY THEN K=K+1;                                    03230007
                   ELSE IF CYEAR = WP THEN K=K+2;                       03240007
                               ELSE DO;                                 03250007
                               PUT DATA(INR);                           03260007
                               GO TO EN;                                03270007
                               END ;                                    03280007
           ARRY(I,J,K)=ARRY(I,J,K)+CTB ;                                03290007
           END SSUB;                                                    03300007
    /*  *********************************************************** */  03310007
     /* ********** THE  ROUTINE  OF  ENDFILE  ******************** */   03320007
    /*  *********************************************************** */  03330007
    /*  *******   READ   SUMMARY NUGYE ******  */                       03340007
    ERR: DO I=1 TO 16 ; /* ** TABLE 2 ** */                             03350007
       DO J=1 TO 3;                                                     03360007
           ARRY(I,J,3)=ARRY(I,J,1)-ARRY(I,J,2);                         03370007
           ARRY(I,J,7)=ARRY(I,J,5)-ARRY(I,J,6);                         03380007
       IF ARRY(I,J,2)=0 THEN ARRY(I,J,4)=0;                             03390007
               ELSE DO;                                                 03400007
       IF ARRY(I,J,2)<0 | ARRY(I,J,3)<0 THEN                            03410007
               ARRY(I,J,4)=ARRY(I,J,3)/ARRY(I,J,2)*100-0.05;            03420007
         ELSE  DO;                                                      03430007
           ARRY(I,J,4)=ARRY(I,J,3)/ARRY(I,J,2)*100+0.05;                03440007
               END;                                                     03450007
                     END;                                               03460007
       IF ARRY(I,J,6)=0 THEN ARRY(I,J,8)=0;                             03470007
           ELSE DO;                                                     03480007
       IF ARRY(I,J,6)<0 | ARRY(I,J,7)<0 THEN                            03490007
               ARRY(I,J,8)=ARRY(I,J,7)/ARRY(I,J,6)*100-0.05;            03500007
           ELSE  DO;                                                    03510007
           ARRY(I,J,8)=ARRY(I,J,7)/ARRY(I,J,6)*100+0.05;                03520007
           END;                                                         03530007
                   END;                                                 03540007
        END;                                                            03550007
       END;                                                             03560007
       DO I=2 TO 16;              /*  TABLE 2 */                        03570007
         DO K=1 TO 8;                                                   03580007
         QA=ARRY(I,1,K);                                                03590007
         QB=ARRY(I,2,K);                                                03600007
         ARRY(I,3,K)=QA-QB;                                             03610007
         END;                                                           03620007
         DO J=1 TO 3;                                                   03630007
           DO K=1 TO 8;                                                 03640007
             ARRY(1,J,K)=ARRY(1,J,K)+ARRY(I,J,K);                       03650007
           END;                                                         03660007
       END;                                                             03670007
       END;                                                             03680007
       DO J=1 TO 2;                                                     03690007
           ARRY(1,J,4)=ARRY(1,J,3)/ARRY(1,J,2)*100+0.05;                03700007
           ARRY(1,J,8)=ARRY(1,J,7)/ARRY(1,J,6)*100+0.05;                03710007
                   END;                                                 03720007
```

```
        QA=ARRY(1,1,4);                                                    03730007
         QB=ARRY(1,2,4);                                                   03740007
        ARRY(1,3,4)=QA-QB;                                                 03750007
        QA=ARRY(1,1,8);                                                    03760007
         QB=ARRY(1,2,8);                                                   03770007
        ARRY(1,3,8)=QA-QB;                                                 03780007
/* ***** READ SUMMARY NUGYE *****    */                                    03790007
   DO I=17 TO 24;  /* ** TABLE 6 ** */                                     03800007
    DO J=1 TO 2;                                                           03810007
     ARRY(I,J,3)=ARRY(I,J,1)-ARRY(I,J,2);                                  03820007
       ARRY(I,J,7)=ARRY(I,J,5)-ARRY(I,J,6);                                03830007
     END;                                                                  03840007
 /* *********** RATE OF TABLE  6   **************************** */         03850007
     DO J=1 TO 3;                                                          03860007
      IF ARRY(I,J,2)=0 THEN ARRY(I,J,4)=0;                                 03870007
         ELSE DO;                                                          03880007
      IF ARRY(I,J,2)<0 | ARRY(I,J,3)<0 THEN                                03890007
           ARRY(I,J,4)=ARRY(I,J,3)/ARRY(I,J,2)*100-0.05;                   03900007
         ELSE DO;                                                          03910007
            ARRY(I,J,4)=ARRY(I,J,3)/ARRY(I,J,2)*100+0.05;                  03920007
         END;                                                              03930007
                 END;                                                      03940007
      IF ARRY(I,J,6)=0 THEN ARRY(I,J,8)=0;                                 03950007
           ELSE DO;                                                        03960007
      IF ARRY(I,J,6)<0 | ARRY(I,J,7)<0 THEN                                03970007
           ARRY(I,J,8)=ARRY(I,J,7)/ARRY(I,J,6)*100-0.05;                   03980007
         ELSE  DO;                                                         03990007
            ARRY(I,J,8)=ARRY(I,J,7)/ARRY(I,J,6)*100+0.05;                  04000007
         END;                                                              04010007
                 END;                                                      04020007
     END;                                                                  04030007
      DO K=1 TO 8;                                                         04040007
       QA=ARRY(I,1,K);                                                     04050007
       QB=ARRY(I,2,K);                                                     04060007
       ARRY(I,3,K)=QA-QB;                                                  04070007
      END;                                                                 04080007
    DO J=1 TO 3;                                                           04090007
      DO K=1 TO 8;                                                         04100007
        ARRY(16,J,K)=ARRY(16,J,K)+ARRY(I,J,K);                             04110007
      END;                                                                 04120007
    END;                                                                   04130007
     END;                                                                  04140007
    DO J=1 TO 2;                                                           04150007
       IF ARRY(1,J,2)=0 THEN ARRY(16,J,4)=0;                               04160007
         ELSE DO;                                                          04170007
           ARRY(16,J,4)=ARRY(16,J,3)/ARRY(16,J,2)*100+0.05;               04180007
         END;                                                              04190007
     IF ARRY(16,J,6)=0 THEN ARRY(16,J,8)=0;                                04200007
         ELSE DO;                                                          04210007
           ARRY(16,J,8)=ARRY(16,J,7)/ARRY(16,J,6)*100+0.05;               04220007
         END;                                                              04230007
    END;                                                                   04240007
    DO I=16 TO 24;                                                         04250007
       QA=ARRY(I,1,4);                                                     04260007
       QB=ARRY(I,2,4);                                                     04270007
       ARRY(I,3,4)=QA-QB;                                                  04280007
       QA=ARRY(I,1,8);                                                     04290007
       QB=ARRY(I,2,8);                                                     04300007
       ARRY(I,3,8)=QA-QB;                                                  04310007
    END;                                                                   04320007
 /* *********** PRINT  ROUNTINE **************************** */            04330007
    PUT PAGE EDIT('#2 MIGRANTS BY PROVINCE') (COLUMN(38),A);               04340007
```

```
      PUT SKIP(2) EDIT('  MONTH                                      SUM')        04350007
             (COLUMN(36),A);                                                      04360007
      PUT SKIP(0) EDIT(WK) (COLUMN(35),F(2));                                      04370007
      PUT SKIP(2) EDIT('                      NUMBER      RATE                     04380007
          NUMBER      RATE')                                                       04390007
             (COLUMN(25),A);                                                       04400007
      PUT  SKIP(0)  EDIT(WY,WK,WP,WK,WY,WK,WP,WK)                                   04410007
             (X(24),F(2),F(3),F(7),F(3),F(26),F(3),F(7),F(3));                     04420007
      DO I=1 TO 16;                                                                04430007
      PUT SKIP(2) EDIT(HD1(I),HD3(1),(ARRY(I,1,K) DO K=1 TO 8))                    04440007
        (X(7),A(6),A(6),2(P'---------9',P'---------9',P'---------9',               04450007
        P'-------9V.9'));                                                          04460007
        DO J=2 TO 3;                                                              04470007
        PUT SKIP(2) EDIT(HD3(J),(ARRY(I,J,K) DO K=1 TO 8))                         04480007
        (X(13),A(6),2(P'---------9',P'---------9',P'---------9',                   04490007
        P'-------9V.9'));                                                          04500007
        END;                                                                      04510007
      END;                                                                         04520007
/*     *****  SUMMARY OUT TAPE#2 *****  */                                         04530007
      DO I=1 TO 16;                                                                04540007
       DO J=1 TO 3;                                                                04550007
        DO K=1 TO 8;                                                               04560007
      OMM(I,J,K)=ARRY(I,J,K);                                                      04570007
       END;                                                                        04580007
        END;                                                                       04590007
         END;                                                                      04600007
           WRITE FILE(OUTF) FROM(OUT);                                             04610007
      PUT PAGE EDIT('#6 MIGRANTS FOR THE 8 LARGEST CITIES')                        04620007
             (COLUMN(34),A);                                                       04630007
      PUT SKIP(2) EDIT('  MONTH                                SUM')               04640007
             (COLUMN(34),A);                                                       04650007
      PUT SKIP(0) EDIT(WK) (COLUMN(33),F(2));                                      04660007
      PUT SKIP(2) EDIT('INC&DEC    CH.YEAR                   INC&DEC               04670007
CH.YEAR')(COLUMN(43),A);                                                           04680007
      PUT SKIP(0) EDIT(WY,WK,WP,WK,WY,WK,WP,WK)                                     04690007
             (X(24),F(2),F(3),F(7),F(3),F(27),F(3),F(7),F(3));                     04700007
      N=1;                                                                         04710007
      DO I=16 TO 24;                                                               04720007
      PUT SKIP(2) EDIT(HD2(N),HD3(1),(ARRY(I,1,K) DO K=1 TO 3, 5 TO 7))            04730007
         (X(7),A(6),A(6),3(P'---------9'),X(10),3(P'---------9'));                 04740007
         PUT SKIP(0) EDIT(ARRY(I,1,4),ARRY(I,1,8))                                 04750007
             (X(19),2(X(30),P'-------9V.9'));                                      04760007
         DO J=2 TO 3;                                                              04770007
         PUT SKIP(2) EDIT(HD3(J),(ARRY(I,J,K) DO K=1 TO 3, 5 TO 7))                04780007
         (X(13),A(6),3(P'---------9'),X(10),3(P'---------9'));                     04790007
      PUT SKIP(0) EDIT(ARRY(I,J,4),ARRY(I,J,8))                                    04800007
             (X(19),2(X(30),P'-------9V.9'));                                      04810007
      END;                                                                         04820007
       N=N+1;                                                                      04830007
     END;                                                                          04840007
/*     *****  SUMMARY  OUT  TAPE  #6   ****  */                                    04850007
      DO I=16 TO 24;                                                               04860007
       DO J=1 TO 3;                                                                04870007
        DO K=1 TO 8;                                                               04880007
      OMM(I,J,K)=ARRY(I,J,K);                                                      04890007
      END;                                                                         04900007
      END;                                                                         04910007
        END;                                                                       04920007
        WRITE FILE(OUTF) FROM(OUT);                                                04930007
   EN: CLOSE FILE(INF),FILE(INF2),FILE(OUTF);                                      04940007
   END LEE;                                                                        04950007
 /*                                                                                04960007
```

```
//GO.INF  DD UNIT=DISK,DSN=A49.VO.WEG(JA862),DISP=(OLD,KEEP),          04970007
//            VOL=SER=BOS242                                           04980007
//GO.INF2 DD UNIT=DISK,DSN=A49.VO.WED(JA852K),DISP=(OLD,KEEP),         04990007
//            VOL=SER=BOS242                                           05000007
//GO.OUTF DD UNIT=DISK,DSN=A49.VO.T23,DISP=(OLD,KEEP),SPACE=(2880,1),  05010007
//            DCB=(LRECL=2880,RECFM=FB,BLKSIZE=2880),VOL=SER=BOS242    05020007
//GO.SYSOUT  DD  SYSOUT=*                                             05030007
//GO.SYSPRINT DD SYSOUT=*                                             05040007
/*                                                                    05050007
//                                                                    05060007
```

```
//A49VOT2B JOB CLASS=A,MSGCLASS=X,NOTIFY=A49                          00010023
//STEP1 EXEC PLIFCLG            *2 WOL SET-TABLE2,6 *                  00020023
//*PLI.SYSPRINT DD SYSOUT=*                                           00030023
//PLI.SYSIN DD *                                                      00040023
* PROCESS GS,NEST,OPT(2),OFFSET;                                      00050023
       /* THIS PROGRAM IS MADE BY LEE JEONG SOOK */                   00060024
     SVO62: PROC OPTIONS(MAIN);                                       00070023
     DCL  TPI  FILE RECORD INPUT;                                     00080023
     DCL  1 IN,                                                       00090023
          2 YEAR PIC '99',                                            00100023
          2 MONTH PIC '99',                                           00110023
          2 HAENG  PIC '(4)9',                                        00120023
          2 NON   PIC '99',                                           00130023
          2 JEN PIC '(4)9',                                           00140023
          2 TB  PIC '(6)9',                                           00150023
          2 F2 CHAR(109);                                             00160023
     DCL  TPR  FILE RECORD INPUT;                                     00170023
     DCL  1 INR,                                                      00180023
          2 CYEAR PIC '99',                                           00190023
          2 CMONTH PIC '99',                                          00200023
          2 CHAENG  PIC '(4)9',                                       00210023
          2 CNON   PIC '99',                                          00220023
          2 CJEN PIC '(4)9',                                          00230023
          2 CTB PIC '(6)9',                                           00240023
          2 F2 CHAR(109);                                             00250023
     DCL  TPI1 FILE RECORD INPUT;   /*  *****SUMMARY INPUT TAPE ** */ 00260023
     DCL  1 IN1,                                                      00270023
          2 MOMM (24,3,8) FIXED (9);                                  00280023
   DCL TPO FILE RECORD OUTPUT; /*  ******SUMMARY OUT TAPE *** */      00290023
   DCL 1 OUT,                                                         00300023
          2 OMM(24,3,8) FIXED (9);                                    00310023
     DCL  CIT1  PIC '99' DEF HAENG; /* ** HAENG JEONG CIDO ** */      00320023
     DCL  CITA  PIC '99' DEF CHAENG; /* ** HAENG JEONG CIDO ** */     00330023
     DCL  GOO1  PIC '99' DEF HAENG POSITION(3);   /* ** GOO ** */     00340023
     DCL  GOOA  PIC '99' DEF CHAENG POSITION(3);  /* ** GOO ** */     00350023
     DCL  CIT2  PIC '99' DEF JEN;  /* ** JEON  GE  JOO JI CIDO ** */  00360023
     DCL  CITB  PIC '99' DEF CJEN;  /* ** JEON  GE  JOO JI CIDO ** */ 00370023
     DCL  GOO2 PIC '99' DEF JEN POSITION(3); /* GE JOO JI GOO ** */   00380023
     DCL  GOOB PIC '99' DEF CJEN POSITION(3); /* GE JOO JI GOO ** */  00390023
     DCL TAB2(6) PIC '9999' INIT(2211,2311,2411,3400,3511,3811);      00400023
     DCL     TAB3(6)  PIC '9999' INIT(2201,2301,2401,3401,3501,3801); 00410023
     DCL   HDP CHAR(80) INIT('WHOLESEOULBUSANDAEGUINCHEKWANJGYEGIGWEONC 00420023
HBUGCHNAMJEBUGJENAMGYBUGGYNAMJE-JUOTHER');                            00430023
     DCL   HD1(16) CHAR(5) DEF HDP;                                   00440023
     DCL   TAB1(15) PIC '99' INIT(11,21,22,23,24,31,32,33,34,35,36,37,3 00450023
8,39,40);                                                             00460023
     DCL (QA,QB) FIXED DEC (10,1);                                    00470023
     DCL  ARRY(24,3,8) FIXED DEC (10,2) INIT((576)0);                 00480023
     DCL  I PIC '99999' INIT(0);                                      00490023
     DCL  J PIC '99999' INIT(0);                                      00500023
     DCL  K PIC '99999' INIT(0);                                      00510023
     DCL  N PIC '99999' INIT(0);                                      00520023
     DCL HDPP CHAR(54) INIT(' TOTAL SEOUL BUSAN DAEGUINCHENKWANJUDAEJEN 00530023
JEONJU MASAN');                                                       00540023
     DCL   HD2(9) CHAR(6) DEF HDPP;                                   00550023
     DCL HD3(3) CHAR(3) INIT('IN ','OUT','NET');                      00560023
     DCL (WK,WY,WP)   FIXED DEC(2);                                   00570023
     ON ENDFILE(TPI) GO TO RR_RTN;                                    00580023
     ON ENDFILE(TPR) GO TO ERR;                                       00590023
     ON ENDFILE(TPI1) GO TO EN;                                       00600023
     OPEN FILE(SYSPRINT) LINESIZE(132);                               00610023
          WK=12;  WY=86;   WP=85;                                     00620023
```

— 107 —

```
      READ: READ FILE(TPI) INTO(IN);                                         00630023
            IF NON > 28 THEN GO TO READ;                                      00640023
            IF CIT1 = 22 | CIT1 = 23 | CIT1 = 24 THEN GOO1 = 11;             00650023
            IF MONTH ¬=WK THEN GO TO NOT_MONTH;                              00660023
/* ************************************************************** */         00670023
/* **********     WHEN SAME MONTH     *************************** */          00680023
/* ************************************************************** */          00690023
      I=2;                                                                   00700023
      DO N=1 TO 14;                                                          00710023
      IF CIT1=TAB1(N) THEN GO TO MATC1; /* MATCH TO HAENG-CIDO */            00720023
      I=I+1;                                                                 00730023
      END;                                                                   00740023
MATC1:  J=1;                                                                 00750023
        K=0;                                                                 00760023
        CALL SUB;      /* ADD TO TABLE 2 INCOME, MONTH */                    00770023
        K=4;                                                                 00780023
        CALL SUB;      /* ADD TO TABLE 2 INCOME, SUM */                      00790023
      I=2;                                                                   00800023
      DO N=1 TO 14;                                                          00810023
      IF CIT2=TAB1(N) THEN GO TO MATC2; /* MATCH TO JEON GE JOO JI */        00820023
      I=I+1;                                                                 00830023
      END;                                                                   00840023
MATC2:  J=2;                                                                 00850023
        K=0;                                                                 00860023
        CALL SUB; /* ADD TO TABLE 2 OUT, MONTH */                           00870023
        K=4;                                                                 00880023
        CALL SUB; /* ADD TO TABLE 2 OUT, SUM ** */                          00890023
/* ********     TABULATION  6     *************************** */             00900023
/* ********        INCOME        *************************** */              00910023
        IF CIT1=11 THEN DO;     /* ** SEOUL  ** */                          00920023
            I=17;                                                            00930023
            GO TO MAT1;                                                      00940023
            END;                                                             00950023
        IF CIT1=21 THEN DO;     /* ** PUSAN ** */                           00960023
            I=18;                                                            00970023
            GO TO MAT1;                                                      00980023
            END;                                                             00990023
      I=19;                                                                  01000023
      DO N=1 TO 6;                                                           01010023
      IF HAENG = TAB2(N) THEN GO TO MAT1; /* MATCH TO CIDO */               01020023
      I=I+1;                                                                 01030023
      END;                                                                   01040023
      GO TO CC;                 /* NOT MATCH TO CIDO */                      01050023
MAT1: J=1;                                                                   01060023
      K=0;                                                                   01070023
      CALL SUB; /* ADD TO MONTH */                                          01080023
      K=4;                                                                   01090023
      CALL SUB; /* ADD TO SUM */                                            01100023
/* ********     OUT     ***************************************** */         01110023
CC:  IF CIT2=11 THEN DO;    /* ** SEOUL ** */                               01120023
            I=17;                                                            01130023
            GO TO MAT2;                                                      01140023
            END;                                                             01150023
      IF CIT2=21 THEN DO;  /* ** PUSAN ** */                                01160023
            I=18;                                                            01170023
            GO TO MAT2;                                                      01180023
            END;                                                             01190023
      I=19;                                                                  01200023
      DO N=1 TO 6;                                                           01210023
      IF JEN = TAB3(N) THEN GO TO MAT2;  /* MATCH TO CIDO */                01220023
      I=I+1;                                                                 01230023
      END;                                                                   01240023
```

```
        GO TO READ;           /* NOT MATCH TO CIDO */            01250023
     MAT2: J=2;                                                  01260023
        K=0;                                                     01270023
          CALL SUB;   /* ADD TO MONTH */                         01280023
             K=4;                                                01290023
             CALL SUB;  /* ADD TO SUM */                         01300023
             GO TO READ;                                         01310023
/*   ****************************************************** */   01320023
 /* * *************** WHEN NOT SAME MONTH   **************** */  01330023
/*   ****************************************************** */   01340023
 NOT_MONTH:                                                      01350023
     IF MONTH >WK THEN GO TO READ;  /* GREATER THEN MONTH */     01360023
     I=2;                                                        01370023
     DO N=1 TO 14;                                               01380023
     IF CIT1=TAB1(N) THEN GO TO MA1; /* MATCH TO HAENG-CIDO */   01390023
     I=I+1;                                                      01400023
     END;                                                        01410023
MA1: J=1;                                                        01420023
     K=4;                                                        01430023
     CALL SUB;  /* *** ADD TO INCOME SUM *** */                  01440023
     I=2;                                                        01450023
     DO N=1 TO 14;                                               01460023
     IF CIT2= TAB1(N) THEN GO TO MA2;  /* MATCH TO JEON-CIDO */  01470023
     I=I+1;                                                      01480023
     END;                                                        01490023
MA2:  J=2;                                                       01500023
     K=4;                                                        01510023
     CALL SUB;   /* ** ADD TO OUT SUM ** */                      01520023
/* *************** TABULATION 6  *************************** */   01530023
/* ***************  I N C O M E  *************************** */   01540023
     IF  CIT1=11 THEN DO;   /* ** SEOUL ** */                    01550023
                I=17;                                            01560023
                GO TO MA21;                                      01570023
                END;                                             01580023
        IF  CIT1=21 THEN DO;  /* ** PUSAN ** */                  01590023
                I=18;                                            01600023
                 GO TO MA21;                                     01610023
                END;                                             01620023
     I=19;                                                       01630023
     DO N=1 TO 6;                                                01640023
     IF HAENG=TAB2(N) THEN GO TO MA21; /* MATCH TO CIDO */       01650023
     I=I+1;                                                      01660023
     END;                                                        01670023
     GO TO DD;             /* NOT MATCH TO CIDO */               01680023
MA21: J=1;                                                       01690023
     K=4;                                                        01700023
     CALL SUB;  /* ** ADD TO INCOME SUM ** */                    01710023
/* *************** O U T  ********************************* */    01720023
DD:   IF CIT2=11 THEN DO;  /* ** SEOUL ** */                     01730023
                I=17;                                            01740023
                GO TO MA22;                                      01750023
                END;                                             01760023
        IF CIT2=21 THEN DO; /* ** PUSAN ** */                    01770023
             I=18;                                               01780023
                GO TO MA22;                                      01790023
                END;                                             01800023
     I=19;                                                       01810023
     DO N=1 TO 6;                                                01820023
     IF JEN=TAB3(N) THEN GO TO MA22; /* MATCH TO CIDO */         01830023
     I=I+1;                                                      01840023
     END;                                                        01850023
     GO TO READ;                /* NOT MATCH TO CIDO */          01860023
```

```
MA22: J=2;                                                           01870023
      K=4;                                                           01880023
      CALL SUB;   /* ** ADD TO OUT SUM ** */                         01890023
      GO TO READ;                                                    01900023
 SUB: PROC;                                                          01910023
      IF YEAR = WY THEN K=K+1;                                       01920023
             ELSE IF YEAR = WP THEN K=K+2;                           01930023
                             ELSE DO;                                01940023
                             PUT DATA(IN);                           01950023
                             GO TO EN;                               01960023
                             END;                                    01970023
      ARRY(I,J,K)=ARRY(I,J,K)+TB;                                    01980023
      END SUB;                                                       01990023
/* ******************************************************** */       02000023
/* ********TAPE READ - JEON YEAR NU JEK ****************** */        02010023
/* ******************************************************** */       02020023
    RR_RTN: READ FILE(TPR) INTO(INR);                               02030023
            IF CNON >28 THEN GO TO RR_RTN;                          02040023
            IF CITA = 22 | CITA = 23 THEN GOOA = 11;                02050023
            IF CMONTH ¬=WK THEN GO TO NTT_MONTH;                    02060023
/* ******************************************************** */       02070023
/* ********WHEN SAME MONTH      ****************************** */    02080023
/* ******************************************************** */       02090023
    I=2;                                                            02100023
    DO N=1 TO 14;                                                   02110023
    IF CITA=TAB1(N) THEN GO TO MATCA; /* MATCH TO HAENG-CITO */     02120023
    I=I+1;                                                          02130023
    END ;                                                           02140023
MATCA: J=1;                                                         02150023
       K=0;                                                         02160023
    CALL SSUB;  /* ADD TO TABLE 2 INCOME, MONTH */                  02170023
    K=4;                                                            02180023
    CALL SSUB;  /* ADD TO TABLE 2 INCOME, SUM */                    02190023
    I=2;                                                            02200023
    DO N=1 TO 14;                                                   02210023
    IF CITB=TAB1(N) THEN GO TO MATCB; /* MATCH TO JEON GE JOO JI */ 02220023
    I=I+1;                                                          02230023
    END ;                                                           02240023
MATCB: J=2;                                                         02250023
       K=0;                                                         02260023
       CALL SSUB; /* ADD TO TABLE 2 OUT, MONTH */                   02270023
       K=4;                                                         02280023
       CALL SSUB; /* ADD TO TABLE 2 OUT,SUM ** */                   02290023
/* **************TABULATION 6     ****************************** */  02300023
/* **************       INCOME    ****************************** */  02310023
       IF CITA=11 THEN DO ; /* ** SEOUL ** */                       02320023
       I=17;                                                        02330023
       GO TO MATA;                                                  02340023
       END ;                                                        02350023
       IF CITA=21 THEN DO ; /* ** PUSAN ** */                       02360023
       I=18;                                                        02370023
       GO TO MATA;                                                  02380023
       END ;                                                        02390023
    I=19;                                                           02400023
    DO N=1 TO 6;                                                    02410023
    IF CHAENG = TAB2(N) THEN GO TO MATA; /* MATCH TO CIDO */        02420023
    I=I+1;                                                          02430023
    END ;                                                           02440023
    GO TO SCC ;                                                     02450023
MATA: J=1;                                                          02460023
K=0;                                                                02470023
CALL SSUB; /* ADD TO MONTH */                                       02480023
```

```
K=4;                                                                      02490023
CALL SSUB; /* ADD TO SUM */                                               02500023
/* ******** OUT   ******************************** */                     02510023
SCC: IF CITB=11 THEN DO ; /* ** SEOUL ** */                               02520023
     I=17;                                                                02530023
     GO TO MATB;                                                          02540023
     END ;                                                                02550023
     IF CITB=21 THEN DO ; /* ** PUSAN ** */                               02560023
     I=18;                                                                02570023
     GO TO MATB;                                                          02580023
     END ;                                                                02590023
     I=19;                                                                02600023
     DO N=1 TO 6;                                                         02610023
     IF CJEN = TAB3(N) THEN GO TO MATB;  /* MATCH TO CIDO */              02620023
     I=I+1;                                                               02630023
     END ;                                                                02640023
     GO TO RR_RTN ;                                                       02650023
     MATB: J=2;                                                           02660023
     K=0;                                                                 02670023
     CALL SSUB; /* ADD TO MONTH */                                        02680023
     K=4;                                                                 02690023
     CALL SSUB; /* ADD TO SUM */                                          02700023
     GO TO RR_RTN;                                                        02710023
/* ****************************************************************** */   02720023
/* *********WHEN NOT SAME MONTH  ********************************** */     02730023
/* ****************************************************************** */   02740023
NTT_MONTH:                                                                02750023
   IF CMONTH > WK THEN GO TO RR_RTN ; /* GREATER THEN MONTH */            02760023
   I=2;                                                                   02770023
   DO N=1 TO 14;                                                          02780023
   IF CITA=TAB1(N) THEN GO TO MAA; /* MATCH TO HAENG-CIDO */              02790023
   I=I+1;                                                                 02800023
   END ;                                                                  02810023
MAA: J=1;                                                                 02820023
   K=4;                                                                   02830023
   CALL SSUB;   /* *** ADD TO INCOME SUM *** */                           02840023
   I=2;                                                                   02850023
   DO N=1 TO 14;                                                          02860023
   IF CITB= TAB1(N) THEN GO TO MAB; /* MATCH TO JEON-CIDO */              02870023
   I=I+1;                                                                 02880023
   END ;                                                                  02890023
MAB:  J=2;                                                                02900023
   K=4;                                                                   02910023
   CALL SSUB;   /* ** ADD TO OUT SUM ** */                                02920023
/*********************** TABULATION 6 ************************** */        02930023
/*********************** I N C O M E  ************************** */        02940023
   IF CITA=11 THEN DO ;  /* ** SEOUL ** */                                02950023
      I=17;                                                               02960023
      GO TO MA2A;                                                         02970023
      END;                                                                02980023
   IF CITA=21 THEN DO ; /* ** PUSAN ** */                                 02990023
      I=18;                                                               03000023
      GO TO MA2A;                                                         03010023
      END;                                                                03020023
   I=19;                                                                  03030023
   DO N=1 TO 6;                                                           03040023
   IF CHAENG=TAB2(N) THEN GO TO MA2A; /* MATCH TO CIDO */                 03050023
   I=I+1 ;                                                                03060023
   END ;                                                                  03070023
   GO TO SDD ;        /* NOT MATCH TO CIDO */                             03080023
MA2A: J=1;                                                                03090023
   K=4;                                                                   03100023
```

— 111 —

```
         CALL SSUB;  /* ** ADD TO INCOME SUM ** */                              03110023
/* ************** O U T  ***************************************** */            03120023
SDD:     IF CITB=11 THEN DO ; /* ** SEOUL ** */                                 03130023
         I=17;                                                                  03140023
         GO TO MA2B;                                                            03150023
         END ;                                                                  03160023
      IF CITB=21 THEN DO; /* ** PUSAN ** */                                     03170023
         I=18;                                                                  03180023
         GO TO MA2B;                                                            03190023
         END ;                                                                  03200023
       I=19;                                                                    03210023
       DO N=1 TO 6;                                                             03220023
       IF CJEN=TAB3(N) THEN GO TO MA2B; /* MATCH TO CIDO */                     03230023
       I=I+1;                                                                   03240023
       END ;                                                                    03250023
       GO TO RR_RTN ;         /* NOT MATCH TO CIDO */                           03260023
MA2B: J=2;                                                                      03270023
      K=4;                                                                      03280023
      CALL SSUB; /* ** ADD TO OUT SUM ** */                                     03290023
      GO TO RR_RTN;                                                             03300023
    SSUB: PROC ;                                                                03310023
     IF CYEAR = WY THEN K=K+1;                                                  03320023
             . ELSE IF CYEAR = WP THEN K=K+2;                                   03330023
                         ELSE DO;                                               03340023
                         PUT DATA(INR);                                         03350023
                         GO TO EN;                                              03360023
                         END ;                                                  03370023
       ARRY(I,J,K)=ARRY(I,J,K)+CTB ;                                            03380023
       END SSUB;                                                                03390023
  /* ********************************************************** */              03400023
  /* ********** THE  ROUTINE  OF  ENDFILE  ******************** */              03410023
  /* ********************************************************** */              03420023
  /* *******   READ SUMMARY NUGYE  ****** */                                   03430023
ERR:READ FILE(TPI1) INTO(IN1);                                                  03440023
   DO I=2 TO 16;                                                                03450023
   DO J=1 TO 2;                                                                 03460023
   ARRY(I,J,5)=ARRY(I,J,1)+MOMM(I,J,5);                                         03470023
   ARRY(I,J,6)=ARRY(I,J,2)+MOMM(I,J,6);                                         03480023
   END;                                                                         03490023
    END;                                                                        03500023
   DO I=1 TO 16 ; /* ** TABLE 2 ** */                                           03510023
   DO J=1 TO 3;                                                                 03520023
       ARRY(I,J,3)=ARRY(I,J,1)-ARRY(I,J,2);                                     03530023
       ARRY(I,J,7)=ARRY(I,J,5)-ARRY(I,J,6);                                     03540023
   IF ARRY(I,J,2)=0 THEN ARRY(I,J,4)=0;                                         03550023
            ELSE DO;                                                            03560023
   IF ARRY(I,J,2)<0 | ARRY(I,J,3)<0 THEN                                        03570023
           ARRY(I,J,4)=ARRY(I,J,3)/ARRY(I,J,2)*100-0.05;                        03580023
      ELSE  DO;                                                                 03590023
      ARRY(I,J,4)=ARRY(I,J,3)/ARRY(I,J,2)*100+0.05;                            03600023
          END;                                                                  03610023
                END;                                                            03620023
   IF ARRY(I,J,6)=0 THEN ARRY(I,J,8)=0;                                         03630023
        ELSE DO;                                                                03640023
   IF ARRY(I,J,6)<0 | ARRY(I,J,7)<0 THEN                                        03650023
           ARRY(I,J,8)=ARRY(I,J,7)/ARRY(I,J,6)*100-0.05;                        03660023
      ELSE  DO;                                                                 03670023
      ARRY(I,J,8)=ARRY(I,J,7)/ARRY(I,J,6)*100+0.05;                            03680023
          END;                                                                  03690023
                END;                                                            03700023
      END;                                                                      03710023
      END;                                                                      03720023
```

```
       DO I=2 TO 16;             /*  TABLE 2 */                        03730023
         DO K=1 TO 8;                                                  03740023
           QA=ARRY(I,1,K);                                             03750023
           QB=ARRY(I,2,K);                                             03760023
           ARRY(I,3,K)=QA-QB;                                          03770023
         END;                                                          03780023
       DO J=1 TO 3;                                                    03790023
           DO K=1 TO 8;                                                03800023
             ARRY(1,J,K)=ARRY(1,J,K)+ARRY(I,J,K);                      03810023
           END;                                                        03820023
       END;                                                            03830023
       END;                                                            03840023
       DO J=1 TO 2;                                                    03850023
         IF ARRY(1,J,2)=0 THEN ARRY(1,J,4)=0;                          03860023
             ELSE DO;                                                  03870023
           ARRY(1,J,4)=ARRY(1,J,3)/ARRY(1,J,2)*100+0.05;              03880023
             END;                                                      03890023
         IF ARRY(1,J,6)=0 THEN ARRY(1,J,8)=0;                          03900023
             ELSE DO;                                                  03910023
           ARRY(1,J,8)=ARRY(1,J,7)/ARRY(1,J,6)*100+0.05;              03920023
             END;                                                      03930023
       END;                                                            03940023
         QA=ARRY(1,1,4);                                               03950023
          QB=ARRY(1,2,4);                                              03960023
          ARRY(1,3,4)=QA-QB;                                           03970023
          QA=ARRY(1,1,8);                                              03980023
          QB=ARRY(1,2,8);                                              03990023
          ARRY(1,3,8)=QA-QB;                                           04000023
/*  ***** READ SUMMARY NUGYE *****    */                               04010023
     READ FILE(TPI1) INTO(IN1);                                        04020023
       DO I=17 TO 24;                                                  04030023
         DO J=1 TO 2;                                                  04040023
     ARRY(I,J,5)=ARRY(I,J,1)+MOMM(I,J,5);                              04050023
     ARRY(I,J,6)=ARRY(I,J,2)+MOMM(I,J,6);                              04060023
       END;                                                            04070023
        END;                                                           04080023
       DO I=17 TO 24;   /* ** TABLE 6 ** */                            04090023
         DO J=1 TO 2;                                                  04100023
          ARRY(I,J,3)=ARRY(I,J,1)-ARRY(I,J,2);                         04110023
            ARRY(I,J,7)=ARRY(I,J,5)-ARRY(I,J,6);                       04120023
         END;                                                          04130023
    /* *********** RATE OF TABLE 6  *************************** */      04140023
         DO J=1 TO 3;                                                  04150023
         IF ARRY(I,J,2)=0 THEN ARRY(I,J,4)=0;                          04160023
            ELSE DO;                                                   04170023
         IF ARRY(I,J,2)<0 | ARRY(I,J,3)<0 THEN                         04180023
              ARRY(I,J,4)=ARRY(I,J,3)/ARRY(I,J,2)*100-0.05;           04190023
            ELSE  DO;                                                  04200023
               ARRY(I,J,4)=ARRY(I,J,3)/ARRY(I,J,2)*100+0.05;         04210023
            END;                                                       04220023
                      END;                                             04230023
         IF ARRY(I,J,6)=0 THEN ARRY(I,J,8)=0;                          04240023
            ELSE DO;                                                   04250023
         IF ARRY(I,J,6)<0 | ARRY(I,J,7)<0 THEN                         04260023
              ARRY(I,J,8)=ARRY(I,J,7)/ARRY(I,J,6)*100-0.05;           04270023
            ELSE  DO;                                                  04280023
               ARRY(I,J,8)=ARRY(I,J,7)/ARRY(I,J,6)*100+0.05;         04290023
            END;                                                       04300023
                      END;                                             04310023
       END;                                                            04320023
         DO K=1 TO 8;                                                  04330023
           QA=ARRY(I,1,K);                                             04340023
```

```
        QB=ARRY(I,2,K);                                                   04350023
        ARRY(I,3,K)=QA-QB;                                                04360023
      END;                                                                04370023
    DO J=1 TO 3;                                                          04380023
      DO K=1 TO 8;                                                        04390023
        ARRY(16,J,K)=ARRY(16,J,K)+ARRY(I,J,K);                           04400023
      END;                                                                04410023
    END;                                                                  04420023
   END;                                                                   04430023
    DO J=1 TO 2;                                                          04440023
      IF ARRY(16,J,2)=0 THEN ARRY(16,J,4)=0;                             04450023
        ELSE DO;                                                          04460023
          ARRY(16,J,4)=ARRY(16,J,3)/ARRY(16,J,2)*100+0.05;              04470023
        END;                                                              04480023
     IF ARRY(16,J,6)=0 THEN ARRY(16,J,8)=0;                             04490023
        ELSE DO;                                                          04500023
          ARRY(16,J,8)=ARRY(16,J,7)/ARRY(16,J,6)*100+0.05;              04510023
        END;                                                              04520023
    END;                                                                  04530023
    DO I=16 TO 24;                                                       04540023
      QA=ARRY(I,1,4);                                                     04550023
      QB=ARRY(I,2,4);                                                     04560023
      ARRY(I,3,4)=QA-QB;                                                  04570023
      QA=ARRY(I,1,8);                                                     04580023
      QB=ARRY(I,2,8);                                                     04590023
      ARRY(I,3,8)=QA-QB;                                                  04600023
    END;                                                                  04610023
/* *********** PRINT  ROUTINE ******************************** */         04620023
    PUT PAGE EDIT('#2 MIGRANTS BY PROVINCE') (COLUMN(38),A);            04630023
    PUT SKIP(2) EDIT('  MONTH                              SUM')         04640023
          (COLUMN(36),A);                                                04650023
    PUT SKIP(0) EDIT(WK) (COLUMN(35),F(2));                             04660023
    PUT SKIP(2) EDIT('               NUMBER      RATE                    04670023
      NUMBER      RATE')                                                 04680023
          (COLUMN(25),A);                                                04690023
    PUT  SKIP(0)  EDIT(WY,WK,WP,WK,WY,WK,WP,WK)                         04700023
          (X(24),F(2),F(3),F(7),F(3),F(26),F(3),F(7),F(3));             04710023
    DO I=1 TO 16;                                                        04720023
    PUT SKIP(2) EDIT(HD1(I),HD3(1),(ARRY(I,1,K) DO K=1 TO 8))           04730023
        (X(7),A(6),A(6),2(P'---------9',P'---------9',P'---------9',    04740023
      P'-------9V.9'));                                                  04750023
        DO J=2 TO 3;                                                     04760023
        PUT SKIP(2) EDIT(HD3(J),(ARRY(I,J,K) DO K=1 TO 8))             04770023
          (X(13),A(6),2(P'---------9',P'---------9',P'---------9',      04780023
        P'-------9V.9'));                                               04790023
        END;                                                             04800023
    END;                                                                 04810023
/*    *****  SUMMARY OUT TAPE#2 ***** */                                04820023
    DO I=1 TO 16;                                                        04830023
      DO J=1 TO 3;                                                       04840023
        DO K=1 TO 8;                                                     04850023
    OMM(I,J,K)=ARRY(I,J,K);                                             04860023
     END;                                                                04870023
     END;                                                                04880023
      END;                                                               04890023
        WRITE FILE(TPO) FROM(OUT);                                      04900023
    PUT PAGE EDIT('#6 MIGRANTS FOR THE 8 LARGEST CITIES')              04910023
          (COLUMN(34),A);                                                04920023
    PUT SKIP(2) EDIT('  MONTH                              SUM')         04930023
          (COLUMN(34),A);                                                04940023
    PUT SKIP(0) EDIT(WK) (COLUMN(33),F(2));                             04950023
    PUT SKIP(2) EDIT('INC&DEC    CH.YEAR                       INC&DEC   04960023
```

```
      CH.YEAR')(COLUMN(43),A);                                          04970023
          PUT SKIP(0) EDIT(WY,WK,WP,WK,WY,WK,WP,WK)                      04980023
                  (X(24),F(2),F(3),F(7),F(3),F(27),F(3),F(7),F(3));      04990023
          N=1;                                                          05000023
          DO I=16 TO 24;                                                05010023
          PUT SKIP(2) EDIT(HD2(N),HD3(1),(ARRY(I,1,K) DO K=1 TO 3, 5 TO 7)) 05020023
              (X(7),A(6),A(6),3(P'---------9'),X(10),3(P'---------9'));  05030023
                  PUT SKIP(0) EDIT(ARRY(I,1,4),ARRY(I,1,8))             05040023
                      (X(19),2(X(30),P'-------9V.9'));                   05050023
              DO J=2 TO 3;                                               05060023
                  PUT SKIP(2) EDIT(HD3(J),(ARRY(I,J,K) DO K=1 TO 3, 5 TO 7)) 05070023
                  (X(13),A(6),3(P'---------9'),X(10),3(P'---------9'));  05080023
          PUT SKIP(0) EDIT(ARRY(I,J,4),ARRY(I,J,8))                     05090023
                  (X(19),2(X(30),P'-------9V.9'));                       05100023
          END;                                                          05110023
          N=N+1;                                                        05120023
      END;                                                              05130023
   /*    ****** SUMMARY  OUT  TAPE  #6   ****  */                       05140023
      DO I=16 TO 24;                                                    05150023
        DO J=1 TO 3;                                                    05160023
          DO K=1 TO 8;                                                  05170023
      OMM(I,J,K)=ARRY(I,J,K);                                           05180023
      END;                                                              05190023
        END;                                                            05200023
          END;                                                          05210023
            WRITE FILE(TPO) FROM(OUT);                                  05220023
   EN: CLOSE FILE(TPI),FILE(TPR),FILE(TPI1),FILE(TPO);                  05230023
          END SVO62;                                                    05240023
/*                                                                      05250023
//GO.SYSPRINT DD SYSOUT=*                                               05260023
//GO.TPI DD UNIT=DISK,DSN=A49.VO.WEG(DE862),DISP=(OLD,KEEP),            05270023
//          VOL=SER=BOS242                                              05280023
//GO.TPR DD UNIT=DISK,DSN=A49.VO.WED(DE852K),DISP=(OLD,KEEP),           05290023
//          VOL=SER=BOS242                                              05300023
//GO.TPI1 DD UNIT=DISK,DSN=A49.VO.T26,VOL=SER=BOS242,DISP=(OLD,KEEP),   05310023
//            DCB=(BLKSIZE=2880,LRECL=2880,RECFM=FB),                   05320023
//            SPACE=(2880,1)                                            05330023
//GO.TPO  DD UNIT=DISK,DSN=A49.VO.T23,DISP=(OLD,KEEP),VOL=SER=BOS242,   05340023
//            DCB=(BLKSIZE=2880,LRECL=2880,RECFM=FB),                   05350023
//            SPACE=(2880,1)                                            05360023
//GO.SYSOUT  DD  SYSOUT=*                                               05370023
//                                                                      05380023
```

```
//A49VOWT4 JOB CLASS=A,NOTIFY=A49,MSGCLASS=X                          00010006
//STEP1 EXEC COBUCLG                                                  00020006
//*COB.SYSPRINT DD SYSOUT=X                                           00030006
//COB.SYSIN DD *                                                      00040006
       ID DIVISION.                                                   00050006
       PROGRAM-ID. IDONG-TABLE04.                                     00060006
       AUTHOR.LEE JEONG SUK.                                          00070006
       ENVIRONMENT DIVISION.                                          00080006
       CONFIGURATION SECTION.                                         00090006
       SPECIAL-NAMES.                                                 00100006
            C01 IS PPGE.                                              00110006
       INPUT-OUTPUT SECTION.                                          00120006
       FILE-CONTROL.                                                  00130006
            SELECT D-F ASSIGN DA-S-INPUT.                             00140006
            SELECT P-F ASSIGN UT-S-OUTPUT.                            00150006
       DATA DIVISION.                                                 00160006
       FILE SECTION.                                                  00170006
       FD  D-F LABEL RECORD STANDARD BLOCK CONTAINS 25 RECORDS.       00180006
       01  D-R.                                                       00190006
            02  TYY PIC 99.                                           00200006
            02  TMM  PIC 99.                                          00210006
            02  HENJENG.                                              00220006
                03  SIGUN.                                            00230006
                  04  SIDO  PIC 99.                                   00240006
                  04 GUN PIC 99.                                      00250006
                03 SAGUN REDEFINES SIGUN PIC 9(4).                    00260006
                03  NON PIC  99.                                      00270006
            02  JEJUJI.                                               00280006
                03  J-DO PIC 99.                                      00290006
                03  J-GUN PIC 99.                                     00300006
            02  JOJUJI REDEFINES JEJUJI PIC 9(4).                     00310006
            02 CHONG.                                                 00320006
                03  CHSU PIC 9(6).                                    00330006
                03  CHM PIC 9(6).                                     00340006
                03  CHW  PIC 9(6).                                    00350006
            02 KAKU.                                                  00360006
                03  CHKA PIC 9(6).                                    00370006
                03  JIK  PIC  9(6).                                   00380006
                03  HO PIC  9(6).                                     00390006
                03  HAK  PIC 9(6).                                    00400006
                03  KAGOK PIC 9(6).                                   00410006
                03  KITA  PIC 9(6).                                   00420006
            02    F  PIC X(61).                                       00430006
       FD  P-F LABEL RECORD OMITTED.                                  00440006
       01  P-R PIC X(132).                                            00450006
       WORKING-STORAGE SECTION.                                       00460006
       77  I  PIC  9(3)  VALUE 0.                                     00470006
       77  J  PIC  9(3)  VALUE 0.                                     00480006
       77  K  PIC  9(3)  VALUE 0.                                     00490006
       77  L  PIC  9(3)  VALUE 0.                                     00500006
       77  N  PIC  9(3)  VALUE 0.                                     00510006
       77  M  PIC  9(3)  VALUE 0.                                     00520006
       01  DNR-1 PIC  X(32) VALUE "11212223243132333435363738394041". 00530006
       01  DNR-2 REDEFINES DNR-1.                                     00540006
            05  DN OCCURS 16  PIC 99.                                 00550006
       01  TOTOE.                                                     00560006
            03  TO-1 PIC X(103) VALUE "                               00570006
       -      "                #4 MIGRANTS FOR THE 8 LARGEST CITIES BY PRO 00580006
       -      "VINCE (86.12)".                                        00590006
       01  TITLE.                                                     00600006
            03  TITL-1 PIC X(70) VALUE "                    SEOUL     00610006
       -      "  BUSAN         DAEGU         INCHEN    ".             00620006
```

```cobol
     03  TITL-2 PIC X(58) VALUE "     KWANGJU        DAEJEON          00630006
-        " JEONJU       MASAN      ".                              00640006
  02  TRTRE.                                                        00650006
     03  TRTR-1 PIC X(70) VALUE "                  IN      OUT     I00660006
-        "N    OUT    IN    OUT    IN    OUT".                      00670006
     03  TRTR-2 PIC X(58) VALUE "      IN      OUT    IN     OUT   I00680006
-        "N    OUT   IN    OUT ".                                   00690006
  01  JEJUL  PIC  X(32) VALUE "1101210122012301240134013501380I".  00700006
  01  JOJUL REDEFINES JEJUL.                                        00710006
     03  JOJ OCCURS 8 PIC 9(4).                                     00720006
  01  TTBLE.                                                        00730006
     03  TAB OCCURS 16.                                             00740006
        05  TA  OCCURS 16 PIC S9(7).                                00750006
  01  TIT-1 PIC X(96) VALUE " WHOLE SEOUL BUSAN DAEGUINCHENKWANJUGE 00760006
-       "ONGIGANWONCHUBUKCHUNAMJENBUKJENNAMGEOBUKGEONAM JE-JUOTHERS".00770006
  01  TITLE-2 REDEFINES TIT-1.                                      00780006
     03  TIT  OCCURS 16 PIC X(6).                                   00790006
  01   PP-R.                                                        00800006
     03  F  PIC X(10) VALUE SPACE.                                  00810006
     03  GI  PIC  X(6).                                             00820006
     03  PP  OCCURS 16 PIC -(6)9.                                   00830006
PROCEDURE DIVISION.                                                 00840006
    OPEN INPUT D-F OUTPUT P-F.                                      00850006
    MOVE ALL "0" TO TTBLE.                                          00860006
    MOVE SPACE TO P-R.                                              00870006
    WRITE P-R AFTER ADVANCING PPGE.                                 00880006
    MOVE SPACE TO P-R.                                              00890006
    MOVE TOTOE TO P-R.                                              00900006
    WRITE P-R AFTER 1.                                              00910006
    MOVE SPACE TO P-R.                                              00920006
    MOVE TITLE TO P-R.                                              00930006
    WRITE P-R AFTER 2.                                              00940006
    MOVE SPACE TO P-R.                                              00950006
    MOVE TRTRE TO P-R.                                              00960006
    WRITE P-R AFTER 2.                                              00970006
    MOVE SPACE TO P-R.                                              00980006
RD-RTN.                                                             00990006
    READ D-F AT END GO TO PR-RTN.                                   01000006
    IF NON > 28 GO TO RD-RTN.                                       01010006
    IF  SIDO = 11 MOVE 1 TO L GO TO BB-RTN.                         01020006
    IF SIDO = 21 MOVE 3 TO L GO TO BB-RTN.                          01030006
    IF  SIDO = 22 MOVE 5 TO L GO TO BB-RTN.                         01040006
    IF SIDO = 23 MOVE 7 TO L GO TO BB-RTN.                          01050006
    IF SIDO = 24 MOVE 9 TO L GO TO BB-RTN.                          01060006
    IF  SAGUN = 3400 MOVE 11 TO L GO TO BB-RTN.                     01070006
    IF SAGUN = 3511 MOVE 13 TO L GO TO BB-RTN.                      01080006
    IF  SAGUN = 3811 MOVE 15 TO L GO TO BB-RTN.                     01090006
    GO TO DD-RTN.                                                   01100006
BB-RTN.                                                             01110006
    PERFORM 100 VARYING I FROM 1 BY 1 UNTIL I > 16.                 01120006
    GO TO DD-RTN.                                                   01130006
100.                                                                01140006
    IF J-DO = DN (I) COMPUTE K = I + 1 GO TO 10.                    01150006
10. IF K > 15 MOVE 16 TO K.                                         01160006
    ADD CHSU TO TA (K L) TA (1 L).                                  01170006
DD-RTN.                                                             01180006
    PERFORM 300 VARYING J FROM 1 BY 1 UNTIL J > 15.                 01190006
    GO TO RD-RTN.                                                   01200006
300.                                                                01210006
    IF SIDO = DN (J) COMPUTE N = J + 1 GO TO 11.                    01220006
11. IF N > 14 MOVE 15 TO N.                                         01230006
    GO TO CC-RTN.                                                   01240006
```

```
        CC-RTN.                                                      01250006
            PERFORM 200 VARYING I FROM 1 BY 1 UNTIL I > 8.           01260006
            GO TO RD-RTN.                                            01270006
        200.                                                         01280006
            IF JOJUJI = JOJ (I) COMPUTE M = I * 2                    01290006
            ADD CHSU TO TA (N M) TA (1 M)                            01300006
            GO TO RD-RTN.                                            01310006
        PR-RTN.                                                      01320006
            MOVE 0 TO I J K L M N.                                   01330006
            PERFORM 400 THRU XE VARYING I FROM 1 BY 1 UNTIL I > 16.  01340006
            GO TO CLO-RTN.                                           01350006
        400.                                                         01360006
            MOVE SPACE TO P-R.                                       01370006
            MOVE TIT (I) TO GI.                                      01380006
            WRITE P-R AFTER 1.                                       01390006
            PERFORM 500 VARYING J FROM 1 BY 1 UNTIL J > 16.          01400006
            WRITE P-R FROM PP-R AFTER 1.                             01410006
            MOVE SPACE TO  GI.                                       01420006
            MOVE SPACE TO P-R.                                       01430006
        XE. EXIT.                                                    01440006
        500.                                                         01450006
            MOVE TA (I J) TO PP (J).                                 01460006
        CLO-RTN.                                                     01470006
            CLOSE D-F P-F.                                           01480006
            STOP RUN.                                                01490006
/*                                                                   01500006
//GO.INPUT DD UNIT=SYSDA,DSN=A49.VO.WEG(DE862),VOL=SER=BOS242,       01510006
//              DISP=(OLD,KEEP)                                      01520006
//GO.OUTPUT DD SYSOUT=*                                              01530006
//GO.SYSOUT DD SYSOUT=*                                              01540006
//GO.SYSPRINT DD SYSOUT=*                                            01550006
//                                                                   01560006
```

```
//A49VOWT5 JOB CLASS=A,NOTIFY=A49,MSGCLASS=X                        00010010
//STEP1 EXEC COBUCLG                                                00020010
//COB.SYSIN DD *                                                    00030010
       ID DIVISION.                                                 00040010
       PROGRAM-ID. IDONG-TABLE05.                                   00050010
       AUTHOR. LEE JEONG SOOK.                                      00060010
       ENVIRONMENT DIVISION.                                        00070010
       CONFIGURATION SECTION.                                       00080010
       SPECIAL-NAMES.                                               00090010
           C01 IS PPGE.                                             00100010
       INPUT-OUTPUT SECTION.                                        00110010
       FILE-CONTROL.                                                00120010
           SELECT D-F ASSIGN DA-S-INPUT.                            00130010
           SELECT P-F ASSIGN UT-S-OUTPUT.                           00140010
       DATA DIVISION.                                               00150010
       FILE SECTION.                                                00160010
       FD  D-F LABEL RECORD STANDARD BLOCK CONTAINS 25 RECORDS.     00170010
       01  D-R.                                                     00180010
           02  TYY PIC 99.                                          00190010
           02  THM PIC 99.                                          00200010
           02  HENJENG.                                             00210010
               03   SIGUN.                                          00220010
                   04    SIDO PIC 99.                               00230010
                   04    GUN PIC 99.                                00240010
                   04    NON PIC 99.                                00250010
           02  JEJUJI.                                              00260010
               03   J-DO PIC 99.                                    00270010
               03   J-GUN PIC 99.                                   00280010
           02  JOJUJI  REDEFINES  JEJUJI PIC 9(4).                  00290010
           02  CHONG.                                               00300010
               03   CHSU PIC 9(6).                                  00310010
               03   CHM PIC 9(6).                                   00320010
               03   CHW PIC 9(6).                                   00330010
           02  KAKU.                                                00340010
               03   CHKA PIC 9(6).                                  00350010
               03   JIK PIC 9(6).                                   00360010
               03   HO PIC 9(6).                                    00370010
               03   HAK PIC 9(6).                                   00380010
               03   KAGOK PIC 9(6).                                 00390010
               03   KITA PIC 9(6).                                  00400010
               03   F  PIC  X(61).                                  00410010
       FD  P-F LABEL RECORD OMITTED.                                00420010
       01  P-R PIC X(132).                                          00430010
       WORKING-STORAGE SECTION.                                     00440010
       77  TCNT PIC 9(7) VALUE 0.                                   00450010
       77  I PIC 9(3) VALUE 0.                                      00460010
       77  J PIC 9(3) VALUE 0.                                      00470010
       77  L PIC 9(3) VALUE 0.                                      00480010
       77  M PIC 9(3) VALUE 0.                                      00490010
       77  N PIC 9(3) VALUE 0.                                      00500010
       01  JEJUL PIC X(32) VALUE "11012101220123012401340135013801".00510010
       01  JOJUL REDEFINES JEJUL.                                   00520010
               03  JOJ OCCURS 8 PIC 9(4).                           00530010
       01  JEON-1.                                                  00540010
           03  JDD  PIC 99.                                         00550010
           03  JGUN  PIC  99.                                       00560010
       01  JEON-2 REDEFINES JEON-1.                                 00570010
           03  JEON-3  PIC  9(4).                                   00580010
       01  TTBLE.                                                   00590010
           03  TA1 OCCURS 10.                                       00600010
               04  TA2 OCCURS 4.                                    00610010
                   05   T1 PIC S9(7).                               00620010
```

```
            05   T2 PIC S9(3)V9999.                                00630010
01  DNR-1 PIC X(28) VALUE "1121222324313233343536373839".          00640010
01  DNR-2 REDEFINES DNR-1.                                         00650010
    05  DN OCCURS 14 PIC 99.                                       00660010
01  TITLE-1 PIC X(60) VALUE " WHOLE TOTAL SEOUL BUSAN DAEGUINCHEN  00670010
-                      "KWANJUDAEJENJEONJU MASAN".                 00680010
01  TITLE-2 REDEFINES TITLE-1.                                     00690010
    03  TIT OCCURS 10 PIC X(6).                                    00700010
01  PP-R.                                                          00710010
    03  F PIC X(20) VALUE SPACE.                                   00720010
    03  GI PIC X(6).                                               00730010
    03  PP OCCURS 4.                                               00740010
        04  L1 PIC -(9)9.                                          00750010
        04  L2 PIC -(7)9.9.                                        00760010
01  CHUUL PIC X(32) VALUE "11002100221123112411340035113811".     00770010
01  CHOOL REDEFINES CHUUL.                                         00780010
    03  CHO OCCURS 8 PIC 9(4).                                     00790010
01  SCNT VALUE ZEROS.                                              00800010
    03  SSS OCCURS 8 PIC 9(7).                                     00810010
01  UCNT VALUE ZEROS.                                              00820010
    03  UUU OCCURS 8 PIC 9(7).                                     00830010
01  TOTOE.                                                         00840010
    03  TO-1 PIC X(114) VALUE "                                    00850010
-          "      #5 MIGRANTS FOR THE 8 LARGEST CITIES (86.12)     00860010
-          "             UNIT:PERSON".                             00870010
01  TPTPE.                                                         00880010
    03  TP-1 PIC X(76) VALUE "                            INTR     00890010
-          "A-CITY                     INTER-CITY".                00900010
01  TQTQE.                                                         00910010
    03  TQ-1 PIC X(98) VALUE "                                     00920010
-          "                IN              OUT                    00930010
-          "     NET".                                             00940010
01  TRTRE.                                                         00950010
    03  TR-1 PIC X(106) VALUE "                          NUMB      00960010
-          "ER     PER.   NUMBER     PER.   NUMBER     PER.        00970010
-          "NUMBER       PER.".                                    00980010
PROCEDURE DIVISION.                                                00990010
    OPEN INPUT D-F OUTPUT P-F.                                     01000010
    MOVE ALL "0" TO TTBLE.                                         01010010
    WRITE P-R AFTER ADVANCING PPGE.                                01020010
    MOVE SPACE TO P-R.                                             01030010
    MOVE TOTOE TO P-R.                                             01040010
    WRITE P-R  AFTER 1.                                            01050010
    MOVE SPACE TO P-R.                                             01060010
    MOVE TPTPE TO P-R.                                             01070010
    WRITE P-R AFTER 2.                                             01080010
    MOVE SPACE TO P-R.                                             01090010
    MOVE TQTQE TO P-R.                                             01100010
    WRITE P-R AFTER 2.                                             01110010
    MOVE SPACE TO P-R.                                             01120010
    MOVE TRTRE TO P-R.                                             01130010
    WRITE P-R AFTER 2.                                             01140010
    MOVE SPACE TO P-R.                                             01150010
RD-RTN.                                                            01160010
    READ D-F AT END GO TO LAST-RTN.                                01170010
    IF NON > 28 GO TO RD-RTN.                                      01180010
    IF SIDO = 22 OR SIDO = 23 OR SIDO = 24 MOVE 11 TO GUN.         01190010
    ADD CHSU TO TCNT.                                              01200010
    MOVE SIGUN TO JEON-1.                                          01210010
    IF JDD = 11 OR JDD = 21 MOVE 0 TO JGUN.                        01220010
    PERFORM 100 VARYING I FROM 1 BY 1 UNTIL I > 14.                01230010
    GO TO CIP-RTN.                                                 01240010
```

```
100.                                                            01250010
        IF JDD = DN (I) AND J-DO = DN (I)                       01260010
                ADD CHSU TO T1 (1 1) GO TO C1-RTN.              01270010
C1-RTN.                                                         01280010
        PERFORM 200 VARYING M FROM 1 BY 1 UNTIL M > 8.          01290010
        GO TO CIP-RTN.                                          01300010
200.                                                            01310010
        IF JEON-2 = CHO (M) GO TO C2-RTN.                       01320010
C2-RTN.                                                         01330010
        PERFORM 300 VARYING J FROM 1 BY 1 UNTIL J > 8.          01340010
        GO TO CIP-RTN.                                          01350010
300.                                                            01360010
        IF JOJUJI = JOJ (J) GO TO C3-RTN.                       01370010
C3-RTN.                                                         01380010
        IF M = J COMPUTE L = M + 2                              01390010
                ADD CHSU TO T1 (L 1) T1 (2 1).                  01400010
CIP-RTN.                                                        01410010
        PERFORM 400 VARYING I FROM 1 BY 1 UNTIL I > 8.          01420010
        GO TO CUL-RTN.                                          01430010
400.                                                            01440010
        IF JEON-3 = CHO (I) ADD CHSU TO SSS (I).                01450010
CUL-RTN.                                                        01460010
        PERFORM 500 VARYING J FROM 1 BY 1 UNTIL J > 8.          01470010
        GO TO RD-RTN.                                           01480010
500.                                                            01490010
        IF JOJUJI = JOJ (J) ADD CHSU TO UUU   (J)               01500010
        GO TO RD-RTN.                                           01510010
LAST-RTN.                                                       01520010
        COMPUTE T1 (1 2) = TCNT - T1 (1 1).                     01530010
        COMPUTE T1 (1 3) = TCNT - T1 (1 1).                     01540010
        PERFORM 600 VARYING I FROM 1 BY 1 UNTIL I > 8.          01550010
        GO TO HU8-RTN.                                          01560010
600.                                                            01570010
        COMPUTE L = I + 2.                                      01580010
        COMPUTE T1 (L 2) = SSS (I) - T1 (L 1).                  01590010
        ADD T1 (L 2) TO T1 (2 2).                               01600010
HU8-RTN.                                                        01610010
        PERFORM 700 VARYING J FROM 1 BY 1 UNTIL J > 8.          01620010
        GO TO SUN-RTN.                                          01630010
700.                                                            01640010
        COMPUTE N = J + 2.                                      01650010
        COMPUTE T1 (N 3) = UUU (J) - T1 (N 1).                  01660010
        ADD T1 (N 3) TO T1 (2 3).                               01670010
SUN-RTN.                                                        01680010
        PERFORM 800 VARYING I FROM 1 BY 1 UNTIL I > 10.         01690010
        GO TO GUS-RTN.                                          01700010
800.                                                            01710010
        COMPUTE T1 (I 4) = T1 (I 2) - T1 (I 3).                 01720010
GUS-RTN.                                                        01730010
        PERFORM 900 VARYING I FROM 1 BY 1 UNTIL I > 10.         01740010
        GO TO GUIP-RTN.                                         01750010
900.                                                            01760010
        IF T1 (1 1) = 0 MOVE 0 TO T2 (I 1) GO TO EX1.           01770010
        COMPUTE T2 (I 1) = T1 (I 1) / T1 (1 1) * 100 + 0.05.    01780010
EX1. EXIT.                                                      01790010
GUIP-RTN.                                                       01800010
        PERFORM 910 VARYING I FROM 1 BY 1 UNTIL I > 10.         01810010
        GO TO GCHL-RTN.                                         01820010
910.                                                            01830010
        IF T1 (1 2) = 0 MOVE 0 TO T2 (I 2) GO TO EX2.           01840010
        COMPUTE T2 (I 2) = T1 (I 2) / T1 (1 2) * 100 + 0.05.    01850010
EX2. EXIT.                                                      01860010
```

```
GCHL-RTN.                                                           01870010
    PERFORM 920 VARYING I FROM 1 BY 1 UNTIL I > 10. -               01880010
    GO TO GSUN-RTN.                                                 01890010
920.                                                                01900010
    IF T1 (1 3) = 0 MOVE 0 TO T2 (I 3) GO TO EX3.                   01910010
    COMPUTE T2 (I 3) = T1 (I 3) / T1 (1 3) * 100 + 0.05.            01920010
EX3. EXIT.                                                          01930010
GSUN-RTN.                                                           01940010
    PERFORM 930 THRU EX4 VARYING I FROM 1 BY 1 UNTIL I > 10.        01950010
    GO TO PR-RTN.                                                   01960010
930.                                                                01970010
    IF T1 (2 4) = 0 MOVE 0 TO T2 (I 4) GO TO EX4.                   01980010
    COMPUTE T2 (I 4) = T1 (I 4) / T1 (2 4) * 100 + 0.05.            01990010
EX4. EXIT.                                                          02000010
PR-RTN.                                                             02010010
    MOVE 0 TO I J L M N. .                                          02020010
    PERFORM 940 THRU XE VARYING I FROM 1 BY 1 UNTIL I > 10.         02030010
    GO TO CLO-RTN.                                                  02040010
940.                                                                02050010
    MOVE SPACE TO P-R.                                              02060010
    MOVE TIT (I) TO GI.                                             02070010
    WRITE P-R AFTER 1.                                              02080010
    PERFORM 950 VARYING J FROM 1 BY 1 UNTIL J > 4.                  02090010
  · WRITE P-R FROM PP-R AFTER 2.                                    02100010
    MOVE SPACE TO GI.                                               02110010
    MOVE SPACE TO P-R.                                              02120010
XE. EXIT.                                                           02130010
950.                                                                02140010
    MOVE T1 (I J) TO L1 (J).                                        02150010
    MOVE T2 (I J) TO L2 (J).                                        02160010
CLO-RTN.                                                            02170010
    CLOSE D-F P-F.                                                  02180010
    STOP RUN.                                                       02190010
/*                                                                  02200010
//GO.SYSPRINT DD SYSOUT=*                                           02210010
//GO.INPUT DD UNIT=SYSDA,DSN=A49.VO.WEG(DE862),VOL=SER=BOS242,      02220010
//            DISP=(OLD,KEEP)                                       02230010
//GO.OUTPUT DD SYSOUT=*                                             02240010
//GO.SYSOUT DD SYSOUT=*                                             02250010
/*                                                                  02260010
//                                                                  02270010
```

```
//A49VOWT7 JOB CLASS=A,MSGCLASS=X,NOTIFY=A49                        00010016
//STEP1 EXEC COBUCLG                                               00020016
//COB.SYSIN DD *          * 2WOL-  SET *                           00030016
        ID DIVISION.                                               00040016
        PROGRAM-ID. IDONG-TAB7TWO.                                 00050016
        AUTHOR. LEE JEONG SOOK.                                    00060016
        ENVIRONMENT DIVISION.                                      00070016
        CONFIGURATION SECTION.                                     00080016
        SPECIAL-NAMES.                                             00090016
            C01 IS PPGE.                                           00100016
        INPUT-OUTPUT SECTION.                                      00110016
        FILE-CONTROL.                                              00120016
            SELECT DA-F ASSIGN DA-S-INPUT.                         00130016
            SELECT T-F ASSIGN UT-S-INPUU.                          00140016
            SELECT DISK-I ASSIGN DA-S-SAMI.                        00150016
            SELECT DISK-O ASSIGN DA-S-SAMO.                        00160016
            SELECT P-F ASSIGN UT-S-OUTPUT.                         00170016
        DATA DIVISION.                                             00180016
        FILE SECTION.                                              00190016
        FD  DA-F LABEL RECORD STANDARD BLOCK CONTAINS 25 RECORDS.  00200016
        01  DA-R.                                                  00210016
            02   TYY  PIC 99.                                      00220016
            02   TMM PIC 99.                                       00230016
            02   HENJENG.                                          00240016
                03   SIDO PIC 99.                                  00250016
                03   GUN PIC 99.                                   00260016
                03   NON PIC 99.                                   00270016
            02  JEJUJI.                                            00280016
                03   J-DO PIC 99.                                  00290016
                03   J-GUN PIC 99.                                 00300016
            02  CHONG.                                             00310016
                03   CHSU PIC 9(6).                                00320016
                03   CHM PIC 9(6).                                 00330016
                03  CHW PIC 9(6).                                  00340016
            02  KAKU.                                              00350016
                03   DAT1 PIC 9(6).                                00360016
                03   DAT2 PIC 9(6).                                00370016
                03   DAT3 PIC 9(6).                                00380016
                03   DAT4 PIC 9(6).                                00390016
                03   DAT5 PIC 9(6).                                00400016
                03   DAT6 PIC 9(6).                                00410016
            02  F    PIC  X(61).                                   00420016
        FD  T-F LABEL RECORD STANDARD BLOCK CONTAINS 25 RECORDS.   00430016
        01  T-R.                                                   00440016
            02   CYY  PIC 99.                                      00450016
            02   CMM PIC 99.                                       00460016
            02   CENJENG.                                          00470016
                03   CIDO PIC 99.                                  00480016
                03   CUN PIC 99.                                   00490016
                03   CON PIC 99.                                   00500016
            02  CEJUJI.                                            00510016
                03   C-DO PIC 99.                                  00520016
                03   C-GUN PIC 99.                                 00530016
            02  CCONG.                                             00540016
                03   CCSU PIC 9(6).                                00550016
                03   CCM PIC 9(6).                                 00560016
                03   CCW PIC 9(6).                                 00570016
            02  CAKU.                                              00580016
                03   DATX PIC 9(6).                                00590016
                03   DATB PIC 9(6).                                00600016
                03   DATC PIC 9(6).                                00610016
                03   DATD PIC 9(6).                                00620016
```

— 123 —

```
        03   DATY PIC 9(6).                                          00630016
        03   DATF PIC 9(6).                                          00640016
     02  F     PIC  X(61).                                           00650016
FD  DISK-I LABEL RECORD STANDARD BLOCK CONTAINS 6 RECORDS            00660016
    RECORDING MODE IS F.                                             00670016
01  TO-R.                                                            00680016
        04  TAA OCCURS 2.                                            00690016
            05  B1 PIC S9(10).                                       00700016
            05  B2 PIC S9(10).                                       00710016
            05  B3 PIC S9(10).                                       00720016
            05  B4 PIC S9(3)V9999999.                                00730016
FD  DISK-O LABEL RECORD STANDARD BLOCK CONTAINS 6 RECORDS            00740016
    RECORDING MODE IS F.                                             00750016
01  TB-R.                                                            00760016
        04  TBB OCCURS 2.                                            00770016
            05  C1 PIC -(10).                                        00780016
            05  C2 PIC -(10).                                        00790016
            05  C3 PIC -(10).                                        00800016
            05  C4 PIC -(7)9.9.                                      00810016
FD  P-F LABEL RECORD OMITTED.                                        00820016
01  P-R PIC X(132).                                                 00830016
WORKING-STORAGE SECTION.                                             00840016
77  I   PIC  99    VALUE 0.                                          00850016
77  J   PIC  99    VALUE 0.                                          00860016
77  K   PIC  99    VALUE 0.                                          00870016
77  REC PIC  9(5) VALUE 0.                                           00880016
77  CN PIC 9(2) VALUE 0.                                             00890016
77  TT PIC 9(10) VALUE 0.                                            00900016
77  NN PIC 9(2) VALUE 0.                                             00910016
01  TTBLE.                                                           00920016
    03  TA1 OCCURS 6.                                                00930016
        04  TA2 OCCURS 2.                                            00940016
            05  T1 PIC S9(10).                                       00950016
            05  T2 PIC S9(10).                                       00960016
            05  T3 PIC S9(10).                                       00970016
            05  T4 PIC S9(3)V9999999.                                00980016
01  PA-RTN.                                                          00990016
    03 F      PIC  X(2)  VALUE SPACE.                                01000016
    03  GI PIC X(11).                                                01010016
    03  PP    OCCURS 2.                                              01020016
        04  L1 PIC -(10).                                            01030016
        04  L2 PIC -(10).                                            01040016
        04  L3 PIC -(10).                                            01050016
        04  L4 PIC -(7)9.9.                                          01060016
01  TITLE-1 PIC X(66) VALUE "T.HOUSEHOLD OCCUPATION    REGISTER      01070016
-   " STUDIESHOUSEMOVING     OTHERS".                                01080016
01  TITLE-2 REDEFINES TITLE-1.                                       01090016
    03  TIT   OCCURS 6 PIC X(11).                                    01100016
01  TOTOE.                                                           01110016
    03  TO-1 PIC X(76) VALUE "                                       01120016
-         "         #7  IN MIGRANTS BY REASON (86.12)".              01130016
01  TQTQE.                                                           01140016
    03  TQ-1 PIC X(77) VALUE "                          MONTH        01150016
-         "                        SUM".                             01160016
01  TPTPE.                                                           01170016
    03  TP-1 PIC X(89) VALUE "                86.12      85.12       01180016
-   "  INC&DEC   RATES    86.12     85.12   CH.YEAR     ".           01190016
    03  TP-2 PIC X(5) VALUE "RATES".                                 01200016
PROCEDURE DIVISION.                                                  01210016
    OPEN INPUT DA-F DISK-I T-F OUTPUT DISK-O P-F.                    01220016
    MOVE ALL "0" TO TTBLE.                                           01230016
    MOVE SPACE TO P-R.                                               01240016
```

```
        WRITE P-R AFTER ADVANCING PPGE.                                01250016
        MOVE SPACE TO P-R.                                              01260016
        MOVE TOTOE TO P-R.                                              01270016
        WRITE P-R AFTER 2.                                             01280016
        MOVE SPACE TO P-R.                                              01290016
        MOVE TQTQE TO P-R.                                              01300016
        WRITE P-R AFTER 3.                                             01310016
        MOVE SPACE TO P-R.                                              01320016
        MOVE TPTPE TO P-R.                                              01330016
        WRITE P-R AFTER 2.                                             01340016
        MOVE SPACE TO P-R.                                              01350016
    READ-RTN.                                                          01360016
        READ DA-F AT END  GO TO CR80-RTN.                             01370016
        IF NON > 28 GO TO READ-RTN.                                    01380016
        ADD DAT1 TO T1 (1 1) T1 (1 2).                                01390016
        ADD DAT2 TO T1 (2 1) T1 (2 2).                                01400016
        ADD DAT3 TO T1 (3 1) T1 (3 2).                                01410016
        ADD DAT4 TO T1 (4 1) T1 (4 2).                                01420016
        ADD DAT5 TO T1 (5 1) T1 (5 2).                                01430016
        ADD DAT6 TO T1 (6 1) T1 (6 2).                                01440016
        GO TO READ-RTN.                                               01450016
    CR80-RTN.                                                          01460016
        READ T-F AT END  GO TO CLOSE-RTN.                            01470016
        IF CON > 28 GO TO CR80-RTN.                                    01480016
        ADD DATX TO T2 (1 1) T2 (1 2).                                01490016
        ADD DATB TO T2 (2 1) T2 (2 2).                                01500016
        ADD DATC TO T2 (3 1) T2 (3 2).                                01510016
        ADD DATD TO T2 (4 1) T2 (4 2).                                01520016
        ADD DATY TO T2 (5 1) T2 (5 2).                                01530016
        ADD DATF TO T2 (6 1) T2 (6 2).                                01540016
        GO TO CR80-RTN.                                               01550016
    CLOSE-RTN.                                                         01560016
        READ DISK-I AT END GO TO CLOSS-RTN.                          01570016
        ADD 1 TO NN.                                                  01580016
        ADD B1 (2) TO T1 (NN 2).                                      01590016
        ADD B2 (2) TO T2 (NN 2).                                      01600016
        GO TO CLOSE-RTN.                                              01610016
    CLOSS-RTN.                                                         01620016
        PERFORM 500          VARYING K FROM 1 BY 1 UNTIL K > 6.       01630016
        GO TO EE-RTN.                                                 01640016
    500.                                                               01650016
        COMPUTE T3 (K 1) = T1 (K 1) - T2 (K 1).                       01660016
        COMPUTE T3 (K 2) = T1 (K 2) - T2 (K 2).                       01670016
    EE-RTN.                                                            01680016
        PERFORM 600 VARYING J FROM 1 BY 1 UNTIL J > 6.               01690016
        GO TO PP-RTN.                                                 01700016
    600.                                                               01710016
        IF T2 (J 1) = 0 MOVE 0 TO T4 (J 1) GO TO EX1.                01720016
        COMPUTE T4 (J 1) = T3 (J 1) / T2 (J 1) * 100 + 0.05.         01730016
    EX1. EXIT.                                                         01740016
    PP-RTN.                                                            01750016
        PERFORM 700 VARYING K FROM 1 BY 1 UNTIL K > 6.               01760016
        GO TO PR-RTN.                                                 01770016
    700.                                                               01780016
        IF T2 (K 2) = 0 MOVE 0 TO T4 (K 2) GO TO EX2.                01790016
        COMPUTE T4 (K 2) = T3 (K 2) / T2 (K 2) * 100 + 0.05.         01800016
    EX2. EXIT.                                                         01810016
    PR-RTN.                                                            01820016
        MOVE 0 TO K J.                                                01830016
        PERFORM 444 THRU QQ VARYING K FROM 1 BY 1 UNTIL K > 6.       01840016
        GO TO CLO-RTN.                                                01850016
    444.                                                               01860016
```

— 125 —

```
            MOVE SPACE TO P-R.                                            01870016
            MOVE TIT (K) TO GI.                                           01880016
            WRITE P-R AFTER 1.                                            01890016
            PERFORM 55 VARYING J FROM 1 BY 1 UNTIL J > 2.                 01900016
            WRITE P-R FROM PA-RTN AFTER 2.                                01910016
            WRITE TB-R.                                                   01920016
            MOVE SPACE TO GI P-R.                                         01930016
        QQ. EXIT.                                                         01940016
        55.                                                              01950016
            MOVE T1 (K J) TO L1 (J). MOVE T1 (K J) TO C1 (J).            01960016
            MOVE T2 (K J) TO L2 (J). MOVE T2 (K J) TO C2 (J).            01970016
            MOVE T3 (K J) TO L3 (J). MOVE T3 (K J) TO C3 (J).            01980016
            MOVE T4 (K J) TO L4 (J). MOVE T4 (K J) TO C4 (J).            01990016
        CLO-RTN.                                                          02000016
            CLOSE DA-F DISK-I T-F DISK-O  P-F.                            02010016
            STOP RUN.                                                     02020016
/*                                                                        02030016
//GO.SYSPRINT DD SYSOUT=*                                                 02040016
//GO.INPUT DD UNIT=DISK,DSN=A49.VO.WEG(DE862),DISP=(OLD,KEEP),            02050016
//           VOL=SER=BOS242                                               02060016
//GO.INPUU DD UNIT=DISK,DSN=A49.VO.WED(DE852K),VOL=SER=BOS242,            02070016
//           DISP=(OLD,KEEP)                                              02080016
//GO.SAMI DD UNIT=DISK,DSN=A49.VO.T7,DISP=(OLD,KEEP),VOL=SER=BOS242,      02090016
//           DCB=(LRECL=480,BLKSIZE=480,RECFM=FB),                        02100016
//           SPACE=(480,1)                                                02110016
//GO.SAMO DD UNIT=DISK,DSN=A49.VO.T8,DISP=(OLD,KEEP),VOL=SER=BOS242,      02120016
//           DCB=(LRECL=480,BLKSIZE=480,RECFM=FB),                        02130016
//           SPACE=(480,1)                                                02140016
//GO.OUTPUT DD SYSOUT=*                                                   02150016
//GO.SYSOUT DD SYSOUT=*                                                   02160016
//                                                                        02170016
```

```
//A49VOWT8 JOB CLASS=A,NOTIFY=A49,MSGCLASS=X                        00010004
//STEP1 EXEC COBUCLG                                                00020004
//COB.SYSIN DD *                                                    00030004
        ID DIVISION.                                                00040004
        PROGRAM-ID. IDONG-TABLE08.                                  00050004
        AUTHOR. LEE JEONG SUK.                                      00060004
        ENVIRONMENT DIVISION.                                       00070004
        CONFIGURATION SECTION.                                      00080004
        SPECIAL-NAMES.                                              00090004
            C01 IS PPGE.                                            00100004
        INPUT-OUTPUT SECTION.                                       00110004
        FILE-CONTROL.                                               00120004
            SELECT D-F ASSIGN DA-S-INPUT.                           00130004
            SELECT P-F ASSIGN TO UT-S-OUTPUT.                       00140004
        DATA DIVISION.                                              00150004
        FILE SECTION.                                               00160004
        FD  D-F LABEL RECORD STANDARD BLOCK CONTAINS 25 RECORDS.    00170004
        01  D-R.                                                    00180004
            02  TYY PIC 99.                                         00190004
            02  TMM PIC 99.                                         00200004
            02  HENJENG.                                            00210004
                03   SIDO PIC 99.                                   00220004
                03   GUN PIC 99.                                    00230004
                03   NON PIC 99.                                    00240004
            02  JEJUJI.                                             00250004
                03   J-DO PIC 99.                                   00260004
                03   J-GUN PIC 99.                                  00270004
            02  CHONG.                                              00280004
                03   CHSU PIC 9(6).                                 00290004
                03   CHM PIC 9(6).                                  00300004
                03   CHW PIC 9(6).                                  00310004
            02  KAKU.                                               00320004
                03   CHKA PIC 9(6).                                 00330004
                03   JIK PIC 9(6).                                  00340004
                03 HO PIC 9(6).                                     00350004
                03 HAK PIC 9(6).                                    00360004
                03 KAGOK PIC 9(6).                                  00370004
                03   KITA PIC 9(6).                                 00380004
            02  F  PIC X(61).                                       00390004
        FD  P-F LABEL RECORD OMITTED.                               00400004
        01  P-R PIC X(132).                                         00410004
        WORKING-STORAGE SECTION.                                    00420004
        77  I PIC 9(3) VALUE 0.                                     00430004
        77  L PIC 9(3) VALUE 0.                                     00440004
        77  J PIC 9(3) VALUE 0.                                     00450004
        77  M PIC 9(3) VALUE 0.                                     00460004
        01  DNR-1 PIC X(28) VALUE "1121222324313233343536373839".   00470004
        01  DNR-2 REDEFINES DNR-1.                                  00480004
                05 DN OCCURS 14 PIC 99.                             00490004
        01  TTBLE.                                                  00500004
            03  TAB OCCURS 15.                                      00510004
                05   TA OCCURS 18 PIC S9(7).                        00520004
        01  TITLE-1 PIC X(75) VALUE "WHOLESEOULBUSANDAEGUINCHEKWANJGYEGIG  00530004
    -      "ANGWCHBUGCHNAMJEBUGJENAMGYBUGGYNAMJE-JU".               00540004
        01  TITLE-2 REDEFINES TITLE-1.                              00550004
            03  TIT OCCURS 15 PIC X(5).                             00560004
        01  TOTOE.                                                  00570004
            03  TO-1 PIC X(82) VALUE "                              00580004
    -      "      #8  IN MIGRANTS BY MIGRATION CAUSE (86.12)".      00590004
        01  TRTRE.                                                  00600004
            03  TR-1 PIC X(115) VALUE "                TOTAL IN-MIGRANTS  00610004
    -      "                      INTRA-PROVINCE                    00620004
```

```
  -        "          INTER-PROVINCE".                              00630004
  01  HEAD.                                                         00640004
       03  HEAD-1 PIC X(70) VALUE "       THOUSE OCCUPA REGIST STUDI 00650004
  -    "E HOUSEM OTHERS THOUSE OCCUPA REGIST ".                     00660004
       03  HEAD-2 PIC X(62) VALUE "STUDIE HOUSEM OTHERS THOUSE OCCUP 00670004
  -    "A REGIST STUDIE HOUSEM OTHERS".                             00680004
  01  PP-R.                                                         00690004
       03  F  PIC X VALUE SPACE.                                    00700004
       03  GI PIC X(5).                                             00710004
       03  PP OCCURS 18 PIC -(6)9.                                  00720004
  PROCEDURE DIVISION.                                               00730004
       OPEN INPUT D-F OUTPUT P-F.                                   00740004
       MOVE ALL "0" TO TTBLE.                                       00750004
       MOVE SPACE TO P-R.                                           00760004
       WRITE P-R AFTER ADVANCING PPGE.                              00770004
       MOVE SPACE TO P-R.                                           00780004
       MOVE TOTOE TO P-R.                                           00790004
       WRITE P-R AFTER 2.                                           00800004
       MOVE SPACE TO P-R.                                           00810004
       MOVE TRTRE TO P-R.                                           00820004
       WRITE P-R AFTER 2.                                           00830004
       MOVE SPACE TO P-R.                                           00840004
       MOVE HEAD TO P-R.                                            00850004
       WRITE P-R AFTER 2.                                           00860004
       MOVE SPACE TO P-R.                                           00870004
  RD-RTN.                                                           00880004
       READ D-F AT END GO TO CORR-RTN.                             00890004
       IF NON > 28 GO TO RD-RTN.                                    00900004
       PERFORM 100 VARYING I FROM 1 BY 1 UNTIL I > 14.             00910004
       GO TO RD-RTN.                                                00920004
  100.                                                              00930004
       IF SIDO = DN (I) COMPUTE L = I + 1 GO TO 10.                00940004
  10.  ADD CHKA TO TA (L 1) TA (1 1)                                00950004
       ADD JIK TO TA (L 2) TA (1 2)                                 00960004
       ADD HO TO TA (L 3) TA (1 3)                                  00970004
       ADD HAK TO TA (L 4) TA (1 4)                                 00980004
       ADD KAGOK TO TA (L 5) TA (1 5)                               00990004
       ADD KITA TO TA (L 6) TA (1 6).                               01000004
       IF SIDO = J-DO                                               01010004
       ADD CHKA TO TA (L 7) TA (1 7)                                01020004
       ADD JIK TO TA (L 8) TA (1 8)                                 01030004
       ADD HO TO TA (L 9) TA (1 9)                                  01040004
       ADD HAK TO TA (L 10) TA (1 10)                               01050004
       ADD KAGOK TO TA (L 11) TA (1 11)                             01060004
       ADD KITA TO TA (L 12) TA (1 12).                             01070004
       GO TO RD-RTN.                                                01080004
  CORR-RTN.                                                         01090004
       PERFORM 300 VARYING I FROM 1 BY 1 UNTIL I > 15              01100004
            AFTER J FROM 1 BY 1 UNTIL J > 6.                       01110004
       GO TO A-RTN.                                                 01120004
  300.                                                              01130004
       COMPUTE L = J + 12                                           01140004
       COMPUTE M = J + 6                                            01150004
       COMPUTE TA (I L) = TA (I J) - TA (I M).                      01160004
  A-RTN.                                                            01170004
       MOVE 0 TO L M I J.                                           01180004
       PERFORM 400 THRU XE VARYING I FROM 1 BY 1 UNTIL I > 15.     01190004
       GO TO CLO-RTN.                                               01200004
  400.                                                              01210004
       MOVE SPACE TO P-R.                                           01220004
       MOVE TIT (I) TO GI.                                          01230004
       WRITE P-R AFTER 1.                                           01240004
```

```
          PERFORM 500 VARYING J FROM 1 BY 1 UNTIL J > 18.        01250004
          WRITE P-R FROM PP-R AFTER 1.                           01260004
          MOVE SPACE TO GI.                                      01270004
          MOVE SPACE TO P-R.                                     01280004
      XE. EXIT.                                                  01290004
      500.                                                       01300004
          MOVE TA (I J) TO PP (J).                               01310004
      CLO-RTN.                                                   01320004
          CLOSE D-F P-F.                                         01330004
          STOP RUN.                                              01340004
/*                                                               01350004
//GO.SYSPRINT DD SYSOUT=*                                        01360004
//GO.INPUT DD UNIT=DISK,DSN=A49.VO.WEG(DE862),VOL=SER=BOS242,    01370004
//           DISP=(OLD,KEEP)                                     01380004
//GO.OUTPUT DD SYSOUT=*                                          01390004
//GO.SYSOUT DD SYSOUT=*                                          01400004
/*                                                               01410004
//                                                               01420004
```

```
//A49VOWT9 JOB CLASS=A,NOTIFY=A49,MSGCLASS=X                              00010006
//STEP1 EXEC COBUCLG                                                      00020006
//COB.SYSIN DD *                                                          00030006
        ID DIVISION.                                                      00040006
        PROGRAM-ID. IDONG-TABLE09.                                        00050006
        AUTHOR. LEE JEONG SUK.                                            00060006
        ENVIRONMENT DIVISION.                                             00070006
        CONFIGURATION SECTION.                                            00080006
        SPECIAL-NAMES.                                                    00090006
            C01 IS PPGE.                                                  00100006
        INPUT-OUTPUT SECTION.                                             00110006
        FILE-CONTROL.                                                     00120006
            SELECT D-F ASSIGN DA-S-INPUT.                                 00130006
            SELECT P-F ASSIGN UT-S-OUTPUT.                                00140006
        DATA DIVISION.                                                    00150006
        FILE SECTION.                                                     00160006
        FD  D-F LABEL RECORD STANDARD BLOCK CONTAINS 25 RECORDS.          00170006
        01  D-R.                                                          00180006
            02  TYY PIC 99.                                               00190006
            02  TMM PIC 99.                                               00200006
            02  HENJENG.                                                  00210006
                03   SIDO PIC 99.                                         00220006
                03   GUN PIC 99.                                          00230006
                03   NON PIC 99.                                          00240006
            02  JEJUJI.                                                   00250006
                03   J-DO PIC 99.                                         00260006
                03   J-GUN PIC 99.                                        00270006
            02  CHONG.                                                    00280006
                03  CHSU PIC 9(6).                                        00290006
                03   CHM PIC 9(6).                                        00300006
                03   CHW PIC 9(6).                                        00310006
            02  KAKU.                                                     00320006
                03  CHKA PIC 9(6).                                        00330006
                03   JIK PIC 9(6).                                        00340006
                03   HO PIC 9(6).                                         00350006
                03   HAK PIC 9(6).                                        00360006
                03   KAGOK PIC 9(6).                                      00370006
                03   KITA PIC 9(6).                                       00380006
            02  F  PIC X(61).                                             00390006
        FD  P-F LABEL RECORD OMITTED.                                     00400006
        01  P-R PIC X(132).                                               00410006
        WORKING-STORAGE SECTION.                                          00420006
        77  I PIC 9(3) VALUE 0.                                           00430006
        77  J PIC 9(3) VALUE 0.                                           00440006
        77  L PIC 9(3) VALUE 0.                                           00450006
        77  M PIC 9(3) VALUE 0.                                           00460006
        01  DNR-1 PIC X(32) VALUE "11212223243132333435363738394041".     00470006
        01  DNR-2 REDEFINES DNR-1.                                        00480006
            05  DN OCCURS 16 PIC 99.                                      00490006
        01  TTBLE.                                                        00500006
            03  TAB OCCURS 16.                                            00510006
                05   TA OCCURS 18 PIC S9(7).                              00520006
        01  TITLE-1 PIC X(80) VALUE "WHOLESEOULBUSANDAEGUINCHEKWANJGENGGI  00530006
      - "ANGWCHBUGCHNAMJEBUGJENAMGYBUGGYNAMJE-JUOTHER".                   00540006
        01  TITLE-2 REDEFINES TITLE-1.                                    00550006
            03  TIT OCCURS 16 PIC X(5).                                   00560006
        01  TOTOE.                                                        00570006
            03  TO-1 PIC X(83) VALUE "                                    00580006
      -       "   #9  OUT MIGRANTS BY MIGRATION CAUSE (86.12)".           00590006
        01  HEAD.                                                         00600006
            03  HEAD-1 PIC X(70) VALUE "                   TOTAL OUT-MIGRA 00610006
      -       "NTS                    INTRA-PROV".                        00620006
```

```
      03  HEAD-2 PIC X(51) VALUE "INCE                                    I00630006
-     "NTER-PROVINCE".                                                     00640006
  01  HTITL.                                                               00650006
      03  HTI-1 PIC X(70) VALUE "         THOUSE OCCUPA REGIST STUDIE      00660006
-         " HOUSEM OTHERS THOUSE OCCUPA REGIST".                           00670006
      03  HTI-2 PIC X(62) VALUE "STUDIE HOUSEM OTHERS THOUSE OCCUPA        00680006
-         " REGIST STUDIE HOUSEM OTHERS".                                  00690006
  01  PP-R.                                                                00700006
      03  F PIC X VALUE SPACE.                                             00710006
      03  GI PIC X(5).                                                     00720006
      03  PP OCCURS 18 PIC -(6)9.                                         00730006
  PROCEDURE DIVISION.                                                      00740006
      OPEN INPUT D-F OUTPUT P-F.                                           00750006
      MOVE ALL "0" TO TTBLE.                                               00760006
      MOVE SPACE TO P-R.                                                   00770006
      WRITE P-R AFTER ADVANCING PPGE.                                      00780006
      MOVE SPACE TO P-R.                                                   00790006
      MOVE TOTOE TO P-R.                                                   00800006
      WRITE P-R AFTER 1.                                                   00810006
      MOVE SPACE TO P-R.                                                   00820006
      MOVE HEAD TO P-R.                                                    00830006
      WRITE P-R AFTER 2.                                                   00840006
      MOVE SPACE TO P-R.                                                   00850006
      MOVE HTITL TO P-R.                                                   00860006
      WRITE P-R AFTER 2.                                                   00870006
      MOVE SPACE TO P-R.                                                   00880006
  RD-RTN.                                                                  00890006
      READ D-F AT END GO TO PX-RTN.                                        00900006
      IF NON > 28 GO TO RD-RTN.                                            00910006
      PERFORM 100 VARYING I FROM 1 BY 1 UNTIL I > 16.                      00920006
      GO TO RD-RTN.                                                        00930006
  100.                                                                     00940006
      IF J-DO = DN (I) COMPUTE L = I + 1 GO TO 10.                         00950006
  10. IF L > 15 MOVE 16 TO L.                                              00960006
      ADD CHKA TO TA (L 1) TA (1 1)                                        00970006
      ADD JIK TO TA (L 2) TA (1 2)                                         00980006
      ADD HO TO TA (L 3) TA (1 3)                                          00990006
      ADD HAK TO TA (L 4) TA (1 4)                                         01000006
      ADD KAGOK TO TA (L 5) TA (1 5)                                       01010006
      ADD KITA TO TA (L 6) TA (1 6).                                       01020006
      IF  SIDO = J-DO                                                      01030006
      ADD CHKA TO TA (L 7) TA (1 7)                                        01040006
      ADD JIK TO TA (L 8) TA (1 8)                                         01050006
      ADD HO TO TA (L 9) TA (1 9)                                          01060006
      ADD HAK TO TA (L 10) TA (1 10)                                       01070006
      ADD KAGOK TO TA (L 11) TA (1 11)                                     01080006
      ADD KITA TO TA (L 12) TA (1 12).                                     01090006
      GO TO RD-RTN.                                                        01100006
  PX-RTN.                                                                  01110006
      PERFORM 300 VARYING I FROM 1 BY 1 UNTIL I > 16                       01120006
              AFTER J FROM 1 BY 1 UNTIL J > 6.                             01130006
      GO TO MVO-RTN.                                                       01140006
  300.                                                                     01150006
      COMPUTE L = J + 12                                                   01160006
      COMPUTE M = J + 6                                                    01170006
      COMPUTE TA (I L) = TA (I J) - TA (I M).                              01180006
  MVO-RTN.                                                                 01190006
      MOVE 0 TO L M I J.                                                   01200006
      PERFORM 400 THRU XE VARYING I FROM 1 BY 1 UNTIL I > 16.              01210006
      GO TO CLO-RTN.                                                       01220006
  400.                                                                     01230006
      MOVE SPACE TO P-R.                                                   01240006
```

```
          MOVE TIT (I) TO GI.                                    01250006
          WRITE P-R AFTER 1.                                     01260006
          PERFORM 500 VARYING J FROM 1 BY 1 UNTIL J > 18.        01270006
          WRITE P-R FROM PP-R AFTER 1.                           01280006
          MOVE SPACE TO GI.                                      01290006
          MOVE SPACE TO P-R.                                     01300006
      XE. EXIT.                                                  01310006
      500.                                                       01320006
          MOVE TA (I J) TO PP (J).                               01330006
      CLO-RTN.                                                   01340006
          CLOSE D-F P-F.                                         01350006
          STOP RUN.                                              01360006
/*                                                               01370006
//GO.SYSPRINT DD  SYSOUT=*                                       01380006
//GO.INPUT DD UNIT=DISK,DSN=A49.VO.WEG(DE862),VOL=SER=BOS242,    01390006
//             DISP=(OLD,KEEP)                                   01400006
//GO.OUTPUT DD SYSOUT=*                                          01410006
//GO.SYSOUT  DD  SYSOUT=*                                        01420006
//                                                               01430006
```

```
//A49VOWTA JOB CLASS=A,NOTIFY=A49,MSGCLASS=A                      00010004
//STEP1 EXEC COBUCLG                                             00020004
//*COB.SYSPRINT DD SYSOUT=*                                      00030004
//COB.SYSIN DD *                                                 00040004
        ID  DIVISION.                                            00050004
        PROGRAM-ID. IDONG-TABLE10                                00060004
        AUTHOR. LEE JEONG SOOK.                                  00070004
        ENVIRONMENT DIVISION.                                    00080004
        CONFIGURATION SECTION.                                   00090004
        SPECIAL-NAMES.                                           00100004
            C01 IS PPGE.                                         00110004
        INPUT-OUTPUT SECTION.                                    00120004
        FILE-CONTROL.                                            00130004
            SELECT D-F ASSIGN DA-S-INPUT.                        00140004
            SELECT P-F ASSIGN UT-S-OUTPUT.                       00150004
        DATA DIVISION.                                           00160004
        FILE SECTION.                                            00170004
        FD  D-F LABEL RECORD STANDARD BLOCK CONTAINS 25  RECORDS. 00180004
        01  D-R.                                                 00190004
            02  TYY PIC 99.                                      00200004
            02  TMM PIC 99.                                      00210004
            02  HENJENG.                                         00220004
                03  SIDO PIC 99.                                 00230004
                03  GUN PIC 99.                                  00240004
                03  NON PIC 99.                                  00250004
            02  JEJUJI.                                          00260004
                03   J-DO PIC 99.                                00270004
                03   J-GUN PIC 99.                               00280004
            02  CHONG.                                           00290004
                03  CHSU PIC 9(6).                               00300004
                03  CHM PIC 9(6).                                00310004
                03  CHW PIC 9(6).                                00320004
            02  KAKU.                                            00330004
                03  CHKA PIC 9(6).                               00340004
                03  JIK PIC 9(6).                                00350004
                03  HO PIC 9(6).                                 00360004
                03  HAK PIC 9(6).                                00370004
                03  KAGOK PIC 9(6).                              00380004
                03  KITA PIC 9(6).                               00390004
            02  F  PIC X(61).                                    00400004
        FD  P-F LABEL RECORD OMITTED.                            00410004
        01  P-R PIC X(132).                                      00420004
        WORKING-STORAGE SECTION.                                 00430004
        77  I PIC 9(3) VALUE 0.                                  00440004
        77  L PIC 9(3) VALUE 0.                                  00450004
        77  J PIC 9(3) VALUE 0.                                  00460004
        01  DNR-1 PIC X(28) VALUE "11212223243132333435363738 39". 00470004
        01  DNR-2 REDEFINES DNR-1.                               00480004
            05  DN OCCURS 14 PIC 99.                             00490004
        01  TTBLE.                                               00500004
            03  TA1 OCCURS 15.                                   00510004
                04  TA2 OCCURS 3.                                00520004
                    05   T1 PIC S9(7).                           00530004
                    05   T2 PIC S9(7).                           00540004
                    05   T3 PIC S9(7).                           00550004
                    05   T4 PIC 9(3)V9999.                       00560004
        01  TITLE-1 PIC X(90) VALUE " WHOLE SEOUL BUSAN DAEGUINCHENKWANJU 00570004
     -  "GEONGIGANWONCHUBUKCHUNAMJENBUKJENNAMGEOBUKGEONAM JE-JU". 00580004
        01  TITLE-2 REDEFINES TITLE-1.                           00590004
            03  TIT OCCURS 15 PIC X(6).                          00600004
        01  PP-R.                                                00610004
            03  F PIC X VALUE SPACE.                             00620004
```

— 133 —

```
        03  GI PIC X(6).                                                      00630004
        03  PP OCCURS 3.                                                      00640004
           04   L1 PIC -(10).                                                 00650004
           04   L2 PIC -(10).                                                 00660004
           04   L3 PIC -(10).                                                 00670004
           04  L4 PIC -(7)9.9.                                                00680004
 01  TOTOE.                                                                   00690004
        03  TO-1 PIC X(86) VALUE "                                            00700004
 -         "  # 10 IN-MIGRANTS BY SEX AND PROVINCE (86.  12 )".               00710004
 01  TATAE.                                                                   00720004
        03  TA-1 PIC X(114) VALUE "                 TOTAL IN-MIGRANTS         00730004
 -         "                       INTRA-PROVINCE                             00740004
 -         "          INTER-PROVINCE".                                        00750004
 01  TBTBE.                                                                   00760004
        03  TA-1 PIC X(87) VALUE "              TOTAL     MALE    FEMAL       00770004
 -         "E   SRATIO    TOTAL     MALE    FEMALE    SRATIO".                00780004
        03  TB-1 PIC X(40) VALUE "       TOTAL      MALE     FEMALE           00790004
 -         "RATIO".                                                          00800004
 PROCEDURE DIVISION.                                                          00810004
        OPEN INPUT D-F OUTPUT P-F.                                            00820004
        MOVE ALL "0" TO TTBLE.                                                00830004
        MOVE SPACE TO P-R.                                                    00840004
        WRITE P-R AFTER ADVANCING PPGE.                                       00850004
        MOVE SPACE TO P-R.                                                    00860004
        MOVE TOTOE TO P-R.                                                    00870004
        WRITE P-R AFTER 2.                                                    00880004
        MOVE SPACE TO P-R.                                                    00890004
        MOVE TATAE TO P-R.                                                    00900004
        WRITE P-R AFTER 2.                                                    00910004
        MOVE SPACE TO P-R.                                                    00920004
        MOVE TBTBE TO P-R.                                                    00930004
        WRITE P-R AFTER 2.                                                    00940004
        MOVE SPACE TO P-R.                                                    00950004
 RD-RTN.                                                                      00960004
        READ D-F AT END GO TO PER-RTN.                                        00970004
        IF NON > 28 GO TO RD-RTN.                                             00980004
        PERFORM 100 VARYING I FROM 1 BY 1 UNTIL I > 14.                       00990004
        GO TO RD-RTN.                                                         01000004
 100.                                                                         01010004
        IF SIDO = DN (I) COMPUTE L = I + 1                                    01020004
                      ADD CHSU TO T1 (L 1) T1 (1 1)                           01030004
                      ADD CHM TO T2 (L 1)  T2 (1 1)                           01040004
                      ADD  CHW TO T3 (L 1) T3 (1 1)                           01050004
        IF SIDO = DN (I) AND J-DO = DN (I)                                    01060004
                ADD CHSU TO T1 (L 2) T1 (1 2)                                 01070004
                ADD CHM TO T2 (L 2) T2 (1 2)                                  01080004
                ADD CHW  TO T3 (L 2) T3 (1 2).                                01090004
 PER-RTN.                                                                     01100004
        PERFORM 200 VARYING I FROM 1 BY 1 UNTIL I > 15.                       01110004
        GO TO COR-RTN.                                                        01120004
 200.                                                                         01130004
        IF T3 (I 1) = 0 MOVE 0 TO T4 (I 1) GO TO EX1.                         01140004
        COMPUTE T4 (I 1) ROUNDED = T2 (I 1) / T3 (I 1) * 100 + 0.05.          01150004
 EX1. EXIT.                                                                   01160004
 COR-RTN.                                                                     01170004
        PERFORM 400 VARYING I FROM 1 BY 1 UNTIL I > 15.                       01180004
        GO TO COQ-RTN.                                                        01190004
 400.                                                                         01200004
        IF T3 (I 2) = 0 MOVE 0 TO T4 (I 2) GO TO EX2.                         01210004
        COMPUTE T4 (I 2) ROUNDED = T2 (I 2) / T3 (I 2) * 100 + 0.05.          01220004
 EX2. EXIT.                                                                   01230004
 COQ-RTN.                                                                     01240004
```

```
        PERFORM 500 VARYING I FROM 1 BY 1 UNTIL I > 15.          01250004
        GO TO PR-RTN.                                            01260004
    500.                                                         01270004
        COMPUTE T1 (I 3) = T1 (I 1) - T1 (I 2)                   01280004
        COMPUTE T2 (I 3) = T2 (I 1) - T2 (I 2)                   01290004
        COMPUTE T3 (I 3) = T3 (I 1) - T3 (I 2)                   01300004
        IF T3 (I 3) = 0 MOVE 0 TO T4 (I 3) GO TO EX3.            01310004
        COMPUTE T4 (I 3) ROUNDED = T2 (I 3) / T3 (I 3) * 100 + 0.05.  01320004
    EX3. EXIT.                                                   01330004
    PR-RTN.                                                      01340004
        MOVE 0 TO I L.                                           01350004
        PERFORM 600 THRU XE VARYING I FROM 1 BY 1 UNTIL I > 15.  01360004
        GO TO CLO-RTN.                                           01370004
    600.                                                         01380004
        MOVE SPACE TO P-R.                                       01390004
        MOVE TIT (I) TO GI.                                      01400004
        WRITE P-R AFTER 1.                                       01410004
        PERFORM 700 VARYING J FROM 1 BY 1 UNTIL J > 3.           01420004
        WRITE P-R FROM PP-R AFTER 1.                             01430004
        MOVE SPACE TO GI.                                        01440004
        MOVE SPACE TO P-R.                                       01450004
    XE. EXIT.                                                    01460004
    700.                                                         01470004
        MOVE T1 (I J) TO L1 (J)                                  01480004
        MOVE T2 (I J) TO L2 (J)                                  01490004
        MOVE T3 (I J) TO L3 (J)                                  01500004
        MOVE T4 (I J) TO L4 (J).                                 01510004
    CLO-RTN.                                                     01520004
        CLOSE D-F P-F.                                           01530004
        STOP RUN.                                                01540004
/*                                                               01550004
//GO.SYSPRINT DD SYSOUT=*                                        01560004
//GO.INPUT DD UNIT=DISK,DSN=A49.VO.WEG(DE862),VOL=SER=BOS242,    01570004
//           DISP=(OLD,KEEP)                                     01580004
//GO.OUTPUT DD SYSOUT=*                                          01590004
//GO.SYSOUT DD SYSOUT=*                                          01600004
//                                                               01610004
```

```
//A49VOWTD JOB CLASS=A,NOTIFY=A49,MSGCLASS=A                          00010006
//STEP1 EXEC COBUCLG                                                  00020006
//COB.SYSPRINT DD SYSOUT=*                                            00030006
//COB.SYSIN DD *                                                      00040006
        ID  DIVISION.                                                 00050006
        PROGRAM-ID. TABLE14.                                          00060006
        ENVIRONMENT DIVISION.                                         00070006
        CONFIGURATION SECTION.                                        00080006
        SPECIAL-NAMES.                                                00090006
           C01 IS PPGE.                                               00100006
        INPUT-OUTPUT SECTION.                                         00110006
        FILE-CONTROL.                                                 00120006
            SELECT D-F ASSIGN     DA-S-INPUT.                         00130006
            SELECT P-F ASSIGN     UT-S-OUTPUT.                        00140006
        DATA DIVISION.                                                00150006
        FILE SECTION.                                                 00160006
        FD  D-F LABEL RECORD STANDARD                                 00170006
            BLOCK CONTAINS 25  RECORDS RECORD CONTAINS 129 CHARACTERS. 00180006
        01  D-R.                                                      00190006
            03 F          PIC X(4).                                   00200006
            03 DO         PIC 99.                                     00210006
            03 F          PIC X(2).                                   00220006
            03 NON        PIC 99.                                     00230006
            03 SDO        PIC 99.                                     00240006
            03 F          PIC XX.                                     00250006
            03 TOT        PIC 9(6).                                   00260006
            03 F          PIC X(109).                                 00270006
        FD  P-F LABEL RECORD OMITTED.                                 00280006
        01  P-R PIC X(132).                                           00290006
        WORKING-STORAGE SECTION.                                      00300006
        77  I    PIC 999 VALUE 0.                                     00310006
        77  J    PIC 999 VALUE 0.                                     00320006
        01  HCOD1 PIC X(30) VALUE "991121222324313233343536373839".   00330006
        01  HCOD2 REDEFINES HCOD1.                                    00340006
            03 HCOD OCCURS 15 TIMES PIC 99.                           00350006
        01  SCOD1 PIC X(32) VALUE "99112122232431323334353637383940". 00360006
        01  SCOD2 REDEFINES SCOD1.                                    00370006
            03 SCOD OCCURS 16 TIMES PIC 99.                           00380006
        01  TAB1.                                                     00390006
            03 TA3 OCCURS 2.                                          00400006
              04 TA2 OCCURS 15.                                       00410006
                05 TA1 OCCURS 16 TIMES PIC 9(6).                      00420006
        01  TAB2.                                                     00430006
            03 TB3 OCCURS 4.                                          00440006
              04 TB2 OCCURS 15.                                       00450006
                05 TB1 OCCURS 16 TIMES PIC 999V99999.                 00460006
        01  LIST1.                                                    00470006
            03 F      PIC X VALUE SPACE.                              00480006
            03 L-DO1 PIC X(5).                                        00490006
            03 F      PIC X VALUE SPACE.                              00500006
            03 LI OCCURS 16 TIMES PIC Z(6)9.                          00510006
        01  LIST2.                                                    00520006
            03 F      PIC X VALUE SPACE.                              00530006
            03 L-DO2 PIC X(5).                                        00540006
            03 F      PIC X VALUE SPACE.                              00550006
            03 LB OCCURS 16 TIMES PIC Z(4)9.9.                        00560006
        01  TITLE.                                                    00570006
            03  TITL-1 PIC X(77) VALUE "        WHOLE   SEOUL  BUSAN  DAE 00580006
        -   "GU  INCHE  KWANJ  GYEGI  GWEON  CHBUG  CHNAM".           00590006
            03  TITL-2 PIC X(42) VALUE " JEBUG  JENAM  GUBUG  GYNAM  JE- 00600006
        -   "JU OTHERS".                                              00610006
        01  TOTOE.                                                    00620006
```

— 136 —

```
       03  TOTL-1 PIC X(77) VALUE "          WHOLE  SEOUL  BUSAN  DAE     00630006
   -   "GU  INCHE  KWANJ  GYEGI  GWEON  CHBUG  CHNAM".                     00640006
       03  TOTL-2 PIC X(42) VALUE "  JEBUG   JENAM   GYBUG   GYNAM  JE-    00650006
   -   "JU OTHERS".                                                        00660006
   01  TITLE-1 PIC X(75) VALUE "WHOLESEOULBUSANDAEGUINCHEKWANJGYEGIG       00670006
   -   "WEONCHBUGCHNAMJEBUGJENAMGYBUGGYNAMJE-JU".                          00680006
   01  TITLE-2 REDEFINES TITLE-1.                                          00690006
       03  TITT OCCURS 15 PIC X(5).                                        00700006
   01  TATAE.                                                              00710006
       03  TA-1 PIC X(62) VALUE "                                         00720006
   -   "     **** # TAB 14-1 # ****".                                      00730006
   01  TBTBE.                                                              00740006
       03  TB-1 PIC X(88) VALUE "                          TOTAL MIGRAN    00750006
   -   "TS BY PROVINCE OF ORIGIN AND DESTINATION (1986. 12  )".            00760006
   01  TCTCE.                                                              00770006
       03  TC-1 PIC X(62) VALUE "                                         00780006
   -   "     **** # TAB 14-2 # ****".                                      00790006
   01  TDTDE.                                                              00800006
       03  TD-1 PIC X(62) VALUE "                                         00810006
   -   "     **** # TAB 14-3 # ****".                                      00820006
   01  TETEE.                                                              00830006
       03  TE-1 PIC X(62) VALUE "                                         00840006
   -   "     **** # TAB 14-4 # ****".                                      00850006
   01  TFTFE.                                                              00860006
       03  TF-1 PIC X(89) VALUE "                            MIGRANTS FOR  00870006
   -   " INTER-PROVINCE BY ORIGIN AND DESTINATION (1986. 12  )".           00880006
   01  TGTGE.                                                              00890006
       03  TG-1 PIC X(63) VALUE "                                         00900006
   -   "     **** # TAB 14-5 # ****".                                      00910006
   01  THTHE.                                                              00920006
       03  TH-1 PIC X(62) VALUE "                                         00930006
   -   "     **** # TAB 14-6 # ****".                                      00940006
   PROCEDURE DIVISION.                                                     00950006
   BEGIN.                                                                  00960006
       OPEN INPUT D-F OUTPUT P-F.                                          00970006
       MOVE ALL "O" TO TAB1 TAB2.                                          00980006
       MOVE SPACE TO P-R.                                                  00990006
       WRITE P-R AFTER ADVANCING PPGE.                                     01000006
       MOVE SPACE TO P-R.                                                  01010006
       MOVE TATAE TO P-R.                                                  01020006
       WRITE P-R AFTER 2.                                                  01030006
       MOVE SPACE TO P-R.                                                  01040006
       MOVE TBTBE TO P-R.                                                  01050006
       WRITE P-R AFTER 2.                                                  01060006
       MOVE SPACE TO P-R.                                                  01070006
       MOVE TITLE TO P-R.                                                  01080006
       WRITE P-R AFTER 2.                                                  01090006
       MOVE SPACE TO P-R.                                                  01100006
   READ-RTN.                                                               01110006
       READ D-F AT END GO TO KUSEONG.                                      01120006
       IF NON > 28 GO TO READ-RTN.                                         01130006
       PERFORM A1-R VARYING I FROM 1 BY 1 UNTIL I > 15.                    01140006
       DISPLAY "ERR-DO =" DO.                                              01150006
       GO TO READ-RTN.                                                     01160006
   A1-R.                                                                   01170006
       IF DO = HCOD (I) GO TO NEXT1.                                       01180006
   NEXT1.                                                                  01190006
       PERFORM A2-R VARYING J FROM 1 BY 1 UNTIL J > 16.                    01200006
       MOVE 16 TO J.                                                       01210006
       GO TO NEXT3.                                                        01220006
   NEXT2.                                                                  01230006
       COMPUTE TA1 (1 I 1) = TA1 (1 I 1) + TOT.                            01240006
```

— 137 —

```
        COMPUTE TA1 (1 1 J) = TA1 (1 1 J) + TOT.              01250006
        COMPUTE TA1 (1 I J) = TA1 (1 I J) + TOT.              01260006
        COMPUTE TA1 (1 1 1) = TA1 (1 1 1) + TOT.              01270006
        GO TO READ-RTN.                                       01280006
    A2-R.                                                     01290006
        IF SDO = SCOD (J) GO TO NEXT3.                        01300006
    NEXT3.                                                    01310006
        IF I = J GO TO NEXT2.                                 01320006
        COMPUTE TA1 (2 I 1) = TA1 (2 I 1) + TOT.              01330006
        COMPUTE TA1 (2 1 J) = TA1 (2 1 J) + TOT.              01340006
        COMPUTE TA1 (2 I J) = TA1 (2 I J) + TOT.              01350006
        COMPUTE TA1 (2 1 1) = TA1 (2 1 1) + TOT.              01360006
        GO TO NEXT2.                                          01370006
    KUSEONG.                                                  01380006
        PERFORM A3-R VARYING I FROM 1 BY 1 UNTIL I > 15       01390006
         AFTER J FROM 1 BY 1 UNTIL J > 16.                    01400006
        GO TO WT1-R.                                          01410006
    A3-R.                                                     01420006
        COMPUTE TB1 (1 I J) ROUNDED = TA1 (1 I J) / TA1 (1 I 1) *  01430006
        100 + 0.05.                                           01440006
        COMPUTE TB1 (2 I J) ROUNDED = TA1 (1 I J) / TA1 (1 1 J) *  01450006
        100 + 0.05.                                           01460006
        COMPUTE TB1 (3 I J) ROUNDED = TA1 (2 I J) / TA1 (2 I 1) *  01470006
        100 + 0.05.                                           01480006
        COMPUTE TB1 (4 I J) ROUNDED = TA1 (2 I J) / TA1 (2 1 J) *  01490006
        100 + 0.05.                                           01500006
    WT1-R.                                                    01510006
        PERFORM A4-R VARYING I FROM 1 BY 1 UNTIL I > 15.      01520006
        GO TO WT2-R.                                          01530006
    A4-R.                                                     01540006
        MOVE TITT (I) TO L-DO1.                               01550006
        PERFORM A5-R VARYING J FROM 1 BY 1 UNTIL J > 16.      01560006
        WRITE P-R FROM LIST1 AFTER 2.                         01570006
        MOVE SPACE TO P-R.                                    01580006
    A5-R.                                                     01590006
        MOVE TA1 (1 I J) TO LI (J).                           01600006
    WT2-R.                                                    01610006
        MOVE SPACE TO P-R.                                    01620006
        WRITE P-R AFTER ADVANCING PPGE.                       01630006
        MOVE SPACE TO P-R.                                    01640006
        MOVE TCTCE TO P-R.                                    01650006
        WRITE P-R AFTER 2.                                    01660006
        MOVE SPACE TO P-R.                                    01670006
        MOVE TOTOE TO P-R.                                    01680006
        WRITE P-R AFTER 2.                                    01690006
        MOVE SPACE TO P-R.                                    01700006
        PERFORM B1-R VARYING I FROM 1 BY 1 UNTIL I > 15.      01710006
        GO TO WT3-R.                                          01720006
    B1-R.                                                     01730006
        MOVE TITT (I) TO L-DO2.                               01740006
        PERFORM B2-R VARYING J FROM 1 BY 1 UNTIL J > 16.      01750006
        WRITE P-R FROM LIST2 AFTER 2.                         01760006
        MOVE SPACE TO P-R.                                    01770006
    B2-R.                                                     01780006
        MOVE TB1 (1 I J) TO LB (J).                           01790006
    WT3-R.                                                    01800006
        MOVE SPACE TO P-R.                                    01810006
        WRITE P-R AFTER ADVANCING PPGE.                       01820006
        MOVE SPACE TO P-R.                                    01830006
        MOVE TDTDE TO P-R.                                    01840006
        WRITE P-R AFTER 2.                                    01850006
        MOVE SPACE TO P-R.                                    01860006
```

```
      MOVE TOTOE TO P-R.                                             01870006
      WRITE P-R AFTER 2.                                             01880006
      MOVE SPACE TO P-R.                                             01890006
      PERFORM B3-R VARYING I FROM 1 BY 1 UNTIL I > 15.               01900006
      GO TO WT4-R.                                                   01910006
  B3-R.                                                              01920006
      MOVE TITT (I) TO L-DO2.                                        01930006
      PERFORM B4-R VARYING J FROM 1 BY 1 UNTIL J > 16.               01940006
      WRITE P-R FROM LIST2 AFTER 2.                                  01950006
      MOVE SPACE TO P-R.                                             01960006
  B4-R.                                                              01970006
      MOVE TB1 (2 I J) TO LB (J).                                    01980006
  WT4-R.                                                             01990006
      WRITE P-R AFTER ADVANCING PPGE.                               02000006
      MOVE SPACE TO P-R.                                             02010006
      MOVE TETEE TO P-R.                                             02020006
      WRITE P-R AFTER 2.                                             02030006
      MOVE SPACE TO P-R.                                             02040006
      MOVE TFTFE TO P-R.                                             02050006
      WRITE P-R AFTER 2.                                             02060006
      MOVE SPACE TO P-R.                                             02070006
      MOVE TITLE TO P-R.                                             02080006
      WRITE P-R AFTER 2.                                             02090006
      MOVE SPACE TO P-R.                                             02100006
      PERFORM B5-R VARYING I FROM 1 BY 1 UNTIL I > 15.               02110006
      GO TO WT5-R.                                                   02120006
  B5-R.                                                              02130006
      MOVE TITT (I) TO L-DO1.                                        02140006
      PERFORM B6-R VARYING J FROM 1 BY 1 UNTIL J > 16.               02150006
      WRITE P-R FROM LIST1 AFTER 2.                                  02160006
      MOVE SPACE TO P-R.                                             02170006
  B6-R.                                                              02180006
      MOVE TA1 (2 I J) TO LI (J).                                    02190006
  WT5-R.                                                             02200006
      WRITE P-R AFTER ADVANCING PPGE.                               02210006
      MOVE SPACE TO P-R.                                             02220006
      MOVE TGTGE TO P-R.                                             02230006
      WRITE P-R AFTER 2.                                             02240006
      MOVE SPACE TO P-R.                                             02250006
      MOVE TOTOE TO P-R.                                             02260006
      WRITE P-R AFTER 2.                                             02270006
      MOVE SPACE TO P-R.                                             02280006
      PERFORM B7-R VARYING I FROM 1 BY 1 UNTIL I > 15.               02290006
      GO TO WT6-R.                                                   02300006
  B7-R.                                                              02310006
      MOVE TITT (I) TO L-DO2.                                        02320006
      PERFORM B8-R VARYING J FROM 1 BY 1 UNTIL J > 16.               02330006
      WRITE P-R FROM LIST2 AFTER 2.                                  02340006
      MOVE SPACE TO P-R.                                             02350006
  B8-R.                                                              02360006
      MOVE TB1 (3 I J) TO LB (J).                                    02370006
  WT6-R.                                                             02380006
      WRITE P-R AFTER ADVANCING PPGE.                               02390006
      MOVE SPACE TO P-R.                                             02400006
      MOVE THTHE TO P-R.                                             02410006
      WRITE P-R AFTER 2.                                             02420006
      MOVE SPACE TO P-R.                                             02430006
      MOVE TOTOE TO P-R.                                             02440006
      WRITE P-R AFTER 2.                                             02450006
      MOVE SPACE TO P-R.                                             02460006
      PERFORM B9-R VARYING I FROM 1 BY 1 UNTIL I > 15.               02470006
      GO TO CLOSE-R.                                                 02480006
```

```
      B9-R. MOVE TITT (I) TO L-DO2.                                02490006
           PERFORM B10-R VARYING J FROM 1 BY 1 UNTIL J > 16.        02500006
           WRITE P-R FROM LIST2 AFTER 2.                            02510006
           MOVE SPACE TO P-R.                                       02520006
      B10-R.                                                        02530006
           MOVE TB1 (4 I J) TO LB (J).                              02540006
      CLOSE-R.                                                      02550006
           CLOSE D-F P-F.                                           02560006
           STOP RUN.                                                02570006
/*                                                                  02580006
//GO.INPUT DD UNIT=DISK,DSN=A49.VO.WEG(DE862),VOL=SER=BOS242,       02590006
//      DISP=SHR                                                    02600006
//GO.OUTPUT DD SYSOUT=*                                             02610006
//GO.SYSPRINT DD SYSOUT=*                                           02620006
//GO.SYSOUT  DD SYSOUT=*                                            02630006
//                                                                  02640006
```

```
//A49VOWTE JOB CLASS=A,NOTIFY=A49,MSGCLASS=X                      00010000
//STEP1 EXEC COBUCLG                                             00020000
//COB.SYSIN DD *                                                 00030000
        ID DIVISION.                                             00040000
        PROGRAM-ID. TABLE16.                                     00050000
        AUTHOR.   LEE JEONG SOOK.                                00060011
        ENVIRONMENT DIVISION.                                    00070000
        CONFIGURATION SECTION.                                   00080000
        SPECIAL-NAMES.                                           00090000
            C01 IS PPGE.                                         00100000
        INPUT-OUTPUT SECTION.                                    00110000
        FILE-CONTROL.                                            00120000
            SELECT D-F ASSIGN DA-S-INPUT.                        00130000
            SELECT P-F ASSIGN UT-S-OUTPUT.                       00140000
        DATA DIVISION.                                           00150000
        FILE SECTION.                                            00160000
        FD  D-F LABEL RECORD STANDARD                            00170000
            BLOCK CONTAINS 25  RECORDS RECORD CONTAINS 129 CHARACTERS.   00180000
        01  D-R.                                                 00190000
            03 F      PIC X(4).                                  00200000
            03 DO     PIC 99.                                    00210000
            03 KUN    PIC 99.                                    00220000
            03 NON    PIC 99.                                    00230000
            03 SDO    PIC 99.                                    00240000
            03 SKUN   PIC 99.                                    00250000
            03 TOT    PIC 9(6).                                  00260000
            03 F      PIC X(109).                                00270000
        FD  P-F LABEL RECORD OMITTED.                            00280000
        01  P-R PIC X(132).                                      00290000
        WORKING-STORAGE SECTION.                                 00300000
        77  I PIC 99 VALUE 0.                                    00310000
        77  J PIC 99 VALUE 0.                                    00320000
        77  K PIC 99 VALUE 0.                                    00330000
        77  L  PIC 99 VALUE 0.                                   00340000
        77  M  PIC  99 VALUE 1.                                  00350000
        77  N  PIC 99 VALUE 0.                                   00360000
        77  O  PIC 99 VALUE 0.                                   00370000
        77  P  PIC 99 VALUE 0.                                   00380000
        01  SI1 PIC X(15) VALUE "TOTAL    SI   GUN".             00390000
        01  SI2 REDEFINES SI1.                                   00400000
            03 TSI OCCURS 3 TIMES PIC X(5).                      00410000
        01  TAB.                                                 00420000
            03 TA2 OCCURS 45.                                    00430001
              04 TA1 OCCURS 60 TIMES PIC 9(7).                   00440008
        01  HCOD PIC X(75) VALUE "WHOLESEOULBUSANDAEGUINCHEKWANJGYEGIGWEO  00450000
      - "NCHBUGCHNAMJEBUGJENAMGYBUGGYNAMJE-JU".                  00460000
        01  HCOD1 REDEFINES HCOD.                                00470000
            03 THDO OCCURS 15 TIMES PIC X(5).                    00480000
        01  HDO PIC X(30) VALUE "9911212223242313233343536373839".  00490000
        01  HHDO REDEFINES HDO.                                  00500000
            03  TTDO OCCURS 15 TIMES PIC 99.                     00510000
        01  LIST2.                                               00520000
            03 F PIC X    VALUE SPACE.                           00530000
            03 LDO1 PIC X(5).                                    00540000
            03 F PIC X VALUE SPACE.                              00550000
            03 LKU1 PIC X(5).                                    00560000
            03 LI2 OCCURS 15 TIMES PIC Z(8).                     00570000
        01  TATAE.                                               00580000
            03  TA-1 PIC X(62) VALUE "                          00590000
      -     "     **** # TAB 16-1 # ****".                       00600000
        01  TBTBE.                                               00610000
            03  TB-1 PIC X(68) VALUE "                MIGRANTS BY  00620000
```

```
-           "ALL SIS AND ALL GUNS (1986. 12  )".                     00630010
 01 TCTCE.                                                           00640000
       03  TC-1 PIC X(62) VALUE "                                    00650000
-.         "    **** # TAB 16-2 # ****".                             00660000
 01  TDTDE.                                                          00670000
       03  TD-1 PIC X(62) VALUE "                                    00680000
-          "    **** # TAB 16-3 # ****".                             00690000
 01  TZTZE.                                                          00700001
       03  TZ-1 PIC X(62) VALUE "                                    00710001
-          "    **** # TAB 16-4 # ****".                             00720001
 01  TETEE.                                                          00730000
       03  TE-1 PIC X(103) VALUE "                          WHOLE    00740000
-          "             SEOUL              BUSAN                     00750000
-          "   DAEGU      ".                                         00760000
       03  TE-2 PIC X(18) VALUE "            INCHEN".                00770000
 01  TFTFE.                                                          00780000
       03  TF-1 PIC X(114) VALUE "              TOTAL      SI    G   00790000
-          "UN   TOTAL       SI       TOTAL     SI        TOT        00800000
-          "AL      SI       TOT".                                   00810000
       03  TF-2 PIC X(10) VALUE "AL      SI".                        00820000
                                                                     00830000
 01  TGTGE.                                                          00840000
       03  TG-1 PIC X(103) VALUE "                          KWANJ    00850001
-          "             GYEGI              GWEON                    00860001
-          "   CHBUG".                                               00870001
       03  TG-2 PIC X(24) VALUE "                CHNAM".             00880001
 01  THTHE.                                                          00890000
       03  TH-1 PIC X(111) VALUE "                TOTAL      SI      00900001
-          "     TOTAL       SI   GUN    TOTAL     SI    GUN   TOT   00910001
-          "AL      SI   GUN   ".                                    00920000
       03  TH-2 PIC X(21) VALUE "TOTAL       SI    GUN".             00930000
 01  TXTXE.                                                          00940000
       03  TX-1 PIC X(103) VALUE "                          JEBUG    00950001
-          "             JENAM              GYBUG                    00960001
-          "   GYNAM      ".                                         00970001
       03  TX-2 PIC X(20) VALUE "               JE-JU".              00980001
 01  TYTYE.                                                          00990000
       03  TY-1 PIC X(107) VALUE "               TOTAL      SI    G  01000000
-          "UN   TOTAL       SI    GUN   TOTAL     SI    GUN   TOT   01010000
-          "AL      SI    G".                                        01020000
       03  TY-2 PIC X(26) VALUE "UN   TOTAL       SI    GUN ".       01030000
 01  TITIE.                                                          01040001
       03  TI-1 PIC X(32) VALUE "                          OTHER".   01050002
 01  TJTJE.                                                          01060001
       03  TJ-1 PIC X(36) VALUE "               TOTAL     SI    GU   01070001
-          "N".                                                      01080001
 PROCEDURE DIVISION.                                                 01090000
 BEGIN.                                                              01100000
      OPEN INPUT D-F OUTPUT P-F.                                     01110000
      MOVE ALL "0" TO TAB.                                           01120000
      MOVE SPACE TO P-R.                                             01130000
      WRITE P-R AFTER ADVANCING PPGE.                               01140000
      MOVE SPACE TO P-R.                                             01150000
      MOVE TATAE TO P-R.                                             01160000
      WRITE P-R AFTER 2.                                             01170000
      MOVE SPACE TO P-R.                                             01180000
      MOVE TBTBE TO P-R.                                             01190000
      WRITE P-R AFTER 2.                                             01200000
      MOVE SPACE TO P-R.                                             01210000
      MOVE TETEE TO P-R.                                             01220000
      WRITE P-R AFTER 2.                                             01230000
      MOVE SPACE TO P-R.                                             01240000
```

```
        MOVE TFTFE TO P-R.                                        01250000
        WRITE P-R AFTER 2.                                        01260000
        MOVE SPACE TO P-R.                                        01270000
READ-RTN.                                                         01280000
        READ D-F AT END GO TO LAST-R.                             01290000
        IF NON > 28 GO TO READ-RTN.                               01300000
        PERFORM A1-R VARYING I FROM 1 BY 1 UNTIL I > 15.          01310001
        GO TO READ-RTN.                                           01320000
A1-R.                                                             01330000
        IF DO = TTDO (I) GO TO NEXT1.                             01340000
NEXT1.                                                            01350000
        IF KUN < 31   COMPUTE K = I * 3 - 2                       01360000
        COMPUTE L = K + 1   GO TO NEXT2.                          01370000
        COMPUTE K = I * 3 - 2.                                    01380000
        COMPUTE L = K + 2.                                        01390000
NEXT2.                                                            01400000
        PERFORM A2-R VARYING J FROM 1 BY 1 UNTIL J > 15.          01410001
        COMPUTE N = J * 3 - 2.                                    01420000
        COMPUTE O = N + 2.                                        01430000
        GO TO NEXT4.                                              01440000
A2-R.                                                             01450000
        IF SDO = TTDO (J) GO TO NEXT3.                            01460000
NEXT3.                                                            01470000
        IF SKUN   NOT = 03 COMPUTE N = J * 3 - 2                  01480000
                    COMPUTE O = N + 1                             01490000
                    GO TO NEXT4.                                  01500000
        COMPUTE N = J * 3 - 2.                                    01510000
        COMPUTE O = N + 2.                                        01520000
NEXT4.                                                            01530000
        COMPUTE TA1 (K N) = TA1 (K N) + TOT.                      01540000
        COMPUTE TA1 (L O) = TA1 (L O) + TOT.                      01550000
        COMPUTE TA1 (1 N) = TA1 (1 N) + TOT.                      01560000
        COMPUTE TA1 (1 O) = TA1 (1 O) + TOT.                      01570000
        COMPUTE TA1 (K 1) = TA1 (K 1) + TOT.                      01580000
        COMPUTE TA1 (L 1) = TA1 (L 1) + TOT.                      01590000
        COMPUTE TA1 (K O) = TA1 (K O) + TOT.                      01600000
        COMPUTE TA1 (L N) = TA1 (L N) + TOT.                      01610000
        GO TO READ-RTN.                                           01620000
LAST-R.                                                           01630000
        PERFORM P1-R VARYING I FROM 4 BY 1 UNTIL I > 48 AFTER J   01640001
        FROM 5 BY 3 UNTIL J > 44.                                 01650001
        GO TO CH1-R.                                              01660000
P1-R.                                                             01670000
        COMPUTE TA1 (2 I) = TA1 (2 I) + TA1 (J I).                01680000
CH1-R.                                                            01690000
        PERFORM P2-R VARYING I FROM 4 BY 1 UNTIL I > 48 AFTER     01700001
        J FROM 6 BY 3 UNTIL J > 45.                               01710001
        GO TO CH2-R.                                              01720000
P2-R.                                                             01730000
        COMPUTE TA1 (3 I) = TA1 (3 I) + TA1 (J I).                01740000
CH2-R.                                                            01750000
        PERFORM P3-R VARYING I FROM 4 BY 1 UNTIL I > 45           01760005
        AFTER J FROM 5 BY 3 UNTIL J > 47.                         01770005
        GO TO CH3-R.                                              01780000
P3-R.                                                             01790000
        COMPUTE TA1 (I 2) = TA1 (I 2) + TA1 (I J).                01800000
CH3-R.                                                            01810000
        PERFORM P4-R VARYING I FROM 4 BY 1 UNTIL                  01820000
        I > 45 AFTER J FROM 6 BY 3 UNTIL J > 48.                  01830005
        GO TO CH4-R.                                              01840000
P4-R.                                                             01850000
        COMPUTE TA1 (I 3) = TA1 (I 3) + TA1 (I J).                01860000
```

```
CH4-R.                                                                 01870000
     PERFORM B1-R VARYING I FROM 4 BY 3 UNTIL I > 46.                  01880001
     GO TO NEXT5.                                                      01890000
B1-R.                                                                  01900000
     COMPUTE TA1 (1 1) = TA1 (1 1) + TA1 (1 I).                        01910000
NEXT5.                                                                 01920000
     PERFORM B2-R VARYING I FROM 5 BY 3 UNTIL I > 47.                  01930001
     GO TO NEXT6.                                                      01940000
B2-R.                                                                  01950000
     COMPUTE TA1 (1 2) = TA1 (1 2) + TA1 (1 I).                        01960000
NEXT6.                                                                 01970000
     PERFORM B3-R VARYING I FROM 6 BY 3 UNTIL I > 48.                  01980001
     GO TO SH1-R.                                                      01990000
B3-R.                                                                  02000000
     COMPUTE TA1 (1 3) = TA1 (1 3) + TA1 (1 I).                        02010000
SH1-R.                                                                 02020000
     PERFORM S1-R VARYING I FROM 2 BY 1 UNTIL I > 3                    02030000
     AFTER J FROM 4 BY 3 UNTIL J > 46.                                 02040005
     GO TO SH2-R.                                                      02050000
S1-R.                                                                  02060000
     COMPUTE TA1 (I 1) = TA1 (I 1) + TA1 (I J).                        02070000
SH2-R.                                                                 02080000
     PERFORM S2-R VARYING I FROM 2 BY 1 UNTIL I > 3                    02090000
     AFTER J FROM 5 BY 3 UNTIL J > 47.                                 02100005
     GO TO SH3-R.                                                      02110000
S2-R.                                                                  02120000
     COMPUTE TA1 (I 2) = TA1 (I 2) + TA1 (I J).                        02130000
SH3-R.                                                                 02140000
     PERFORM S3-R VARYING I FROM 2 BY 1 UNTIL I > 3                    02150000
     AFTER J FROM 6 BY 3 UNTIL J > 48.                                 02160005
     GO TO WT1-R.                                                      02170000
S3-R.                                                                  02180000
     COMPUTE TA1 (I 3) = TA1 (I 3) + TA1 (I J).                        02190000
WT1-R.                                                                 02200000
     PERFORM W1-R VARYING I FROM 1 BY 1 UNTIL I > 15.                  02210001
     GO TO WT2-R.                                                      02220000
W1-R.                                                                  02230000
     MOVE THDO (I) TO LD01.                                            02240000
     PERFORM W2-R VARYING J FROM 1 BY 1 UNTIL J > 3.                   02250000
     WRITE P-R AFTER ADVANCING 3.                                      02260000
     MOVE SPACE TO P-R.                                                02270000
W2-R.                                                                  02280000
     MOVE TSI (J) TO LKU1.                                             02290000
     PERFORM W3-R VARYING K FROM 1 BY 1 UNTIL K > 15.                  02300005
     WRITE P-R FROM LIST2 AFTER 2.                                     02310000
     MOVE SPACE TO P-R.                                                02320000
     COMPUTE M = M + 1.                                                02330000
W3-R.                                                                  02340000
     MOVE TA1 (M K) TO LI2 (K).                                        02350000
WT2-R.                                                                 02360000
     WRITE P-R AFTER ADVANCING PPGE.                                   02370000
     MOVE SPACE TO P-R.                                                02380000
     MOVE TCTCE TO P-R.                                                02390000
     WRITE P-R AFTER 1.                                                02400000
     MOVE SPACE TO P-R.                                                02410000
     MOVE TGTGE TO P-R.                                                02420000
     WRITE P-R AFTER 2.                                                02430000
     MOVE SPACE TO P-R.                                                02440000
     MOVE THTHE TO P-R.                                                02450000
     WRITE P-R AFTER 2.                                                02460000
     MOVE SPACE TO P-R.                                                02470000
     MOVE 1 TO M.                                                      02480000
```

— 144 —

```
        PERFORM W4-R VARYING I FROM 1 BY 1 UNTIL I > 15.          02490001
        GO TO WT3-R.                                              02500000
W4-R.                                                             02510000
        MOVE THDO (I) TO LD01.                                    02520000
        PERFORM W5-R VARYING J FROM 1 BY 1 UNTIL J > 3.           02530000
        WRITE P-R AFTER ADVANCING 3.                              02540000
        MOVE SPACE TO P-R.                                        02550000
W5-R.                                                             02560000
        MOVE TSI (J) TO LKU1.                                     02570000
        PERFORM W6-R VARYING K FROM 16 BY 1 UNTIL K > 30.         02580000
        WRITE P-R FROM LIST2 AFTER 2.                             02590000
        MOVE SPACE TO P-R.                                        02600000
        COMPUTE M = M + 1.                                        02610000
W6-R.                                                             02620000
        COMPUTE O = K - 15.                                       02630000
        MOVE TA1 (M K) TO LI2 (O).                                02640000
WT3-R.                                                            02650000
        WRITE P-R AFTER ADVANCING PPGE.                           02660000
        MOVE SPACE TO P-R.                                        02670000
        MOVE TDTDE TO P-R.                                        02680000
        WRITE P-R AFTER 1.                                        02690000
        MOVE SPACE TO P-R.                                        02700000
        MOVE TXTXE TO P-R.                                        02710000
        WRITE P-R AFTER 2.                                        02720000
        MOVE SPACE TO P-R.                                        02730000
        MOVE TYTYE TO P-R.                                        02740000
        WRITE P-R AFTER 2.                                        02750000
        MOVE SPACE TO P-R.                                        02760000
        MOVE 1 TO M.                                              02770000
        PERFORM W7-R VARYING I FROM 1 BY 1 UNTIL I > 15.          02780001
        GO TO CLOSE-R.                                            02790000
W7-R.                                                             02800000
        MOVE THDO (I) TO LD01.                                    02810000
        PERFORM W8-R VARYING J FROM 1 BY 1 UNTIL J > 3.           02820000
        WRITE P-R AFTER ADVANCING 3.                              02830000
        MOVE SPACE TO P-R.                                        02840000
W8-R.                                                             02850000
        MOVE TSI (J) TO LKU1.                                     02860000
        PERFORM W9-R VARYING K FROM 31 BY 1 UNTIL K > 45.         02870004
        WRITE P-R FROM LIST2 AFTER 2.                             02880000
        MOVE SPACE TO P-R.                                        02890000
        COMPUTE M = M + 1.                                        02900000
W9-R.                                                             02910000
        COMPUTE O = K - 30.                                       02920000
        MOVE TA1 (M K) TO LI2 (O).                                02930000
WT20-R.                                                           02940002
        WRITE P-R AFTER ADVANCING PPGE.                           02950001
        MOVE SPACE TO P-R.                                        02960001
        MOVE TZTZE TO P-R.                                        02970002
        WRITE P-R AFTER 1.                                        02980001
        MOVE SPACE TO P-R.                                        02990001
        MOVE TITIE TO P-R.                                        03000002
        WRITE P-R AFTER 2.                                        03010001
        MOVE SPACE TO P-R.                                        03020001
        MOVE TJTJE TO P-R.                                        03030002
        WRITE P-R AFTER 2.                                        03040001
        MOVE SPACE TO P-R.                                        03050001
        MOVE 1 TO M.                                              03060001
        PERFORM W21-R VARYING I FROM 1 BY 1 UNTIL I > 15.         03070002
        GO TO CLOSE-R.                                            03080001
W21-R.                                                            03090002
        MOVE THDO (I) TO LD01.                                    03100008
```

```
        PERFORM W22-R VARYING J FROM 1 BY 1 UNTIL J > 3.              03110002
        WRITE P-R AFTER ADVANCING 3.                                  03120001
        MOVE SPACE TO P-R.                                            03130001
    W22-R.                                                            03140002
        MOVE TSI (J) TO LKU1.                                         03150008
        PERFORM W23-R VARYING K FROM 46 BY 1 UNTIL K > 60.            03160008
        WRITE P-R FROM LIST2 AFTER 2.                                 03170001
        MOVE SPACE TO P-R.                                            03180001
        COMPUTE M = M + 1.                                            03190001
    W23-R.                                                            03200002
        COMPUTE O = K - 45.                                           03210003
        MOVE TA1 (M K) TO LI2 (O).                                    03220008
    CLOSE-R.                                                          03230000
        CLOSE D-F P-F.                                                03240000
        STOP RUN.                                                     03250000
/*                                                                    03260000
//GO.INPUT DD UNIT=DISK,DSN=A49.VO.WEG(DE862),VOL=SER=BOS242,         03270010
//              DISP=(OLD,KEEP)                                       03280000
//GO.SYSPRINT DD SYSOUT=*                                             03290002
//GO.OUTPUT DD SYSOUT=*                                               03300002
//GO.SYSOUT DD SYSOUT=*                                               03310000
//                                                                    03320000
```

```
//A49VOWTG JOB CLASS=A,NOTIFY=A49,MSGCLASS=X          00010000
//STEP1 EXEC COBUCLG                                  00020000
//*COB.SYSPRINT DD SYSOUT=*                           00030003
//COB.SYSIN DD *                                      00040000
       ID DIVISION.                                   00050000
       PROGRAM-ID. IDONG-TABLE18.                     00060000
       AUTHOR. LEE JEONG SUK.                         00070000
       ENVIRONMENT DIVISION.                          00080000
       CONFIGURATION SECTION.                         00090000
       SPECIAL-NAMES.                                 00100000
           C01 IS PPGE.                               00110000
       INPUT-OUTPUT SECTION.                          00120000
       FILE-CONTROL.                                  00130000
           SELECT D-F ASSIGN DA-S-INPUT.              00140000
           SELECT P-F ASSIGN UT-S-OUTPUT.             00150000
       DATA DIVISION.                                 00160000
       FILE SECTION.                                  00170000
       FD  D-F LABEL RECORD STANDARD BLOCK CONTAINS 25 RECORDS.  00180000
       01  D-R.                                       00190000
           02  YM PIC X(4).                           00200000
           02  SDO PIC 99.                            00210000
           02  GUN PIC 99.                            00220000
           02  NON PIC 99.                            00230000
           02  JDO PIC 99.                            00240000
           02  JGUN PIC 99.                           00250000
           02  TOT PIC 9(6).                          00260000
           02  F PIC X(109).                          00270000
       FD  P-F LABEL RECORD OMITTED.                  00280000
       01  P-R PIC X(132).                            00290000
       WORKING-STORAGE SECTION.                       00300000
       77  I PIC 9(3) VALUE 0.                        00310000
       77  J PIC 9(3) VALUE 0.                        00320000
       77  P PIC 9(3) VALUE 0.                        00330000
       77  Q PIC 9(3) VALUE 0.                        00340000
       77  L PIC 9(3) VALUE 0.                        00350000
       77  M PIC 9(3) VALUE 0.                        00360000
       77  N PIC 9(3) VALUE 0.                        00370000
       01  DNR-1 PIC X(32) VALUE "11212223243132333435363738394041".  00380000
       01  DNR-2 REDEFINES DNR-1.                     00390000
           05  DN OCCURS 16 PIC 99.                   00400000
       01  TTBLE.                                     00410000
           03  TA1 OCCURS 36.                         00420000
               04   TAB OCCURS 12 TIMES PIC S9(10).   00430000
       01  TITLE.                                     00440000
           03  TITLE-1 PIC X(118) VALUE "JENGUK SI-BUGUN-BU SEOUL BUSAN  00450000
      -    "DAEGUINCHENKWANJUGEONGI SI-BUGUN-BUGANWON SI-BUGUN-BUCHU  00460000
      -    "BUK SI-BUGUN-BUCHUNAM SI-BUGUN-".          00470000
           03  TITLE-2 PIC X(98) VALUE "BUJENBUK SI-BUGUN-BUJENNAM SI-BU  00480000
      -    "GUN-BUGEOBUK SI-BUGUN-BUGEONAM SI-BUGUN-BU JE-JU SI-BUGU  00490000
      -    "N-BU GITA".                               00500000
       01  TOTLE REDEFINES TITLE.                     00510000
           03  TIT OCCURS 36 PIC X(6).                00520000
       01  TATAE.                                     00530000
           03  TA-1 PIC X(100) VALUE "                00540000
      -    "     **** # 18 # SIDOBEL SIBU GUNBUGAN INGUIDONG ***  00550000
      -    "(1986.12)".                               00560005
       01  TBTBE.                                     00570000
           03  TB-1 PIC X(116) VALUE "    SI DO              JEON  00580000
      -    "IP                      JEON   CHUL        00590000
      -    "         SUN   IDONG".                     00600000
       01  TCTCE.                                     00610000
           03  TC-1 PIC X(120) VALUE "                      SI BU  00620003
```

```
-     "GUN BU      GITA              SI BU      GUN BU      GITA           00630000
-          "      SI BU     GUN BU".                                        00640003
     03  TC-2 PIC X(10) VALUE "      GITA".                                 00650003
01  PP-R.                                                                   00660000
     03  F PIC X(4) VALUE SPACE.                                           00670000
     03  GI PIC X(6).                                                      00680000
     03  PP OCCURS 12 TIMES PIC -(10).                                     00690000
PROCEDURE DIVISION.                                                         00700000
     OPEN INPUT D-F OUTPUT P-F.                                            00710000
     MOVE ALL "0" TO TTBLE.                                                00720000
     MOVE SPACE TO P-R.                                                    00730000
     WRITE P-R AFTER ADVANCING PPGE.                                       00740000
     MOVE SPACE TO P-R.                                                    00750000
     MOVE TATAE TO P-R.                                                    00760000
     WRITE P-R AFTER 3.                                                    00770000
     MOVE SPACE TO P-R.                                                    00780000
     MOVE TBTBE TO P-R.                                                    00790000
     WRITE P-R AFTER 2.                                                    00800000
     MOVE SPACE TO P-R.                                                    00810000
     MOVE TCTCE TO P-R.                                                    00820000
     WRITE P-R AFTER 2.                                                    00830000
     MOVE SPACE TO P-R.                                                    00840000
RD-RTN.                                                                     00850000
     READ D-F AT END GO TO GAM-RTN.                                        00860000
     IF NON > 28 GO TO RD-RTN.                                             00870000
     PERFORM 100  THRU XE VARYING I FROM 1 BY 1 UNTIL I > 16.              00880000
     GO TO JEON-CHULA.                                                     00890000
100.                                                                       00900000
     IF SDO NOT = DN (I) GO TO XE.                                         00910000
     IF SDO = DN (I) IF I > 5 GO TO PP-RTN.                                00920003
     IF SDO = DN (I) COMPUTE L = I + 3                                     00930000
     IF JGUN > 02 GO TO IGUN-RTN.                                          00940000
     COMPUTE TAB (1 1) = TAB (1 1) + TOT.                                  00950000
     COMPUTE TAB (2 1) = TAB (2 1) + TOT.                                  00960000
     COMPUTE TAB (1 2) = TAB (1 2) + TOT.                                  00970000
     COMPUTE TAB (2 2) = TAB (2 2) + TOT.                                  00980000
     COMPUTE TAB (L 2) = TAB (L 2) + TOT.                                  00990000
     COMPUTE TAB (L 1) = TAB (L 1) + TOT GO TO JEON-CHULA.                 01000000
IGUN-RTN.                                                                   01010000
     IF JGUN > 03 GO TO IGITA-RTN.                                         01020000
     COMPUTE TAB (1 1) = TAB (1 1) + TOT.                                  01030000
     COMPUTE TAB (2 1) = TAB (2 1) + TOT.                                  01040000
     COMPUTE TAB (1 3) = TAB (1 3) + TOT.                                  01050000
     COMPUTE TAB (2 3) = TAB (2 3) + TOT.                                  01060000
     COMPUTE TAB (L 3) = TAB (L 3) + TOT.                                  01070000
     COMPUTE TAB (L 1) = TAB (L 1) + TOT GO TO JEON-CHULA.                 01080000
IGITA-RTN.                                                                  01090000
     COMPUTE TAB (1 1) = TAB (1 1) + TOT.                                  01100000
     COMPUTE TAB (2 1) = TAB (2 1) + TOT.                                  01110000
     COMPUTE TAB (1 4) = TAB (1 4) + TOT.                                  01120000
     COMPUTE TAB (2 4) = TAB (2 4) + TOT.                                  01130000
     COMPUTE TAB (L 4) = TAB (L 4) + TOT.                                  01140000
     COMPUTE TAB (L 1) = TAB (L 1) + TOT GO TO JEON-CHULA.                 01150000
PP-RTN.                                                                     01160000
     COMPUTE L = I * 3 - 9.                                                01170003
     IF GUN < 31 GO TO HSI-RTN.                                            01180000
     COMPUTE N = I * 3 - 7.                                                01190003
     IF JGUN > 02 GO TO HKK-RTN.                                           01200000
     COMPUTE TAB (N 1) = TAB (N 1) + TOT.                                  01210000
     COMPUTE TAB (N 2) = TAB (N 2) + TOT.                                  01220000
     COMPUTE TAB (L 1) = TAB (L 1) + TOT.                                  01230000
     COMPUTE TAB (L 2) = TAB (L 2) + TOT.                                  01240000
```

```
          COMPUTE TAB (1 1) = TAB (1 1) + TOT.                              01250000
          COMPUTE TAB (1 2) = TAB (1 2) + TOT.                              01260000
          COMPUTE TAB (3 1) = TAB (3 1) + TOT.                              01270000
          COMPUTE TAB (3 2) = TAB (3 2) + TOT GO TO JEON-CHULA.             01280000
      HKK-RTN.                                                              01290000
          IF JGUN NOT = 03 GO TO HGGTA-RTN.                                 01300000
          COMPUTE TAB (N 1) = TAB (N 1) + TOT.                              01310000
          COMPUTE TAB (N 3) = TAB (N 3) + TOT.                              01320000
          COMPUTE TAB (L 1) = TAB (L 1) + TOT.                              01330000
          COMPUTE TAB (L 3) = TAB (L 3) + TOT.                              01340000
          COMPUTE TAB (1 1) = TAB (1 1) + TOT.                              01350000
          COMPUTE TAB (1 3) = TAB (1 3) + TOT.                              01360000
          COMPUTE TAB (3 1) = TAB (3 1) + TOT.                              01370000
          COMPUTE TAB (3 3) = TAB (3 3) + TOT GO TO JEON-CHULA.             01380000
      HGGTA-RTN.                                                            01390000
          COMPUTE TAB (N 1) = TAB (N 1) + TOT.                              01400000
          COMPUTE TAB (N 4) = TAB (N 4) + TOT.                              01410000
          COMPUTE TAB (L 1) = TAB (L 1) + TOT.                              01420000
          COMPUTE TAB (L 4) = TAB (L 4) + TOT.                              01430000
          COMPUTE TAB (1 1) = TAB (1 1) + TOT.                              01440000
          COMPUTE TAB (1 4) = TAB (1 4) + TOT.                              01450000
          COMPUTE TAB (3 1) = TAB (3 1) + TOT.                              01460000
          COMPUTE TAB (3 4) = TAB (3 4) + TOT GO TO JEON-CHULA.             01470000
      HSI-RTN.                                                              01480000
          COMPUTE M = I * 3 - 8.                                            01490003
          IF JGUN > 02 GO TO HYY-RTN.                                       01500000
          COMPUTE TAB (L 1) = TAB (L 1) + TOT.                              01510000
          COMPUTE TAB (L 2) = TAB (L 2) + TOT.                              01520000
          COMPUTE TAB (M 1) = TAB (M 1) + TOT.                              01530000
          COMPUTE TAB (M 2) = TAB (M 2) + TOT.                              01540000
          COMPUTE TAB (1 1) = TAB (1 1) + TOT.                              01550000
          COMPUTE TAB (2 1) = TAB (2 1) + TOT.                              01560000
          COMPUTE TAB (1 2) = TAB (1 2) + TOT.                              01570000
          COMPUTE TAB (2 2) = TAB (2 2) + TOT GO TO JEON-CHULA.             01580000
      HYY-RTN.                                                              01590000
          IF JGUN NOT = 03 GO TO HTTTA-RTN.                                 01600000
          COMPUTE TAB (L 1) = TAB (L 1) + TOT.                              01610000
          COMPUTE TAB (L 3) = TAB (L 3) + TOT.                              01620000
          COMPUTE TAB (M 1) = TAB (M 1) + TOT.                              01630000
          COMPUTE TAB (M 3) = TAB (M 3) + TOT.                              01640000
          COMPUTE TAB (1 1) = TAB (1 1) + TOT.                              01650000
          COMPUTE TAB (2 1) = TAB (2 1) + TOT.                              01660000
          COMPUTE TAB (1 3) = TAB (1 3) + TOT.                              01670000
          COMPUTE TAB (2 3) = TAB (2 3) + TOT GO TO JEON-CHULA.             01680000
      HTTTA-RTN.                                                            01690000
          COMPUTE TAB (L 1) = TAB (L 1) + TOT.                              01700000
          COMPUTE TAB (L 4) = TAB (L 4) + TOT.                              01710000
          COMPUTE TAB (M 1) = TAB (M 1) + TOT.                              01720000
          COMPUTE TAB (M 4) = TAB (M 4) + TOT.                              01730000
          COMPUTE TAB (1 1) = TAB (1 1) + TOT.                              01740000
          COMPUTE TAB (2 1) = TAB (2 1) + TOT.                              01750000
          COMPUTE TAB (1 4) = TAB (1 4) + TOT.                              01760000
          COMPUTE TAB (2 4) = TAB (2 4) + TOT GO TO JEON-CHULA.             01770000
      XE. EXIT.                                                             01780000
      JEON-CHULA.                                                           01790000
          PERFORM 200   THRU XX VARYING I FROM 1 BY 1 UNTIL I > 16.         01800000
          GO TO RD-RTN.                                                     01810000
      200.                                                                  01820000
          IF JDO NOT = DN (I) GO TO XX.                                     01830000
          IF JDO = DN (I) IF I > 5 GO TO JEON-CHULB.                        01840003
          IF JDO = DN (I) COMPUTE L = I + 3                                 01850000
          IF  GUN < 31 GO TO SIBU-RTN.                                      01860000
```

```
          COMPUTE TAB (L 5) = TAB (L 5) + TOT.                        01870000
          COMPUTE TAB (L 7) = TAB (L 7) + TOT.                        01880000
          COMPUTE TAB (2 5) = TAB (2 5) + TOT.                        01890000
          COMPUTE TAB (2 7) = TAB (2 7) + TOT.                        01900000
          COMPUTE TAB (1 5) = TAB (1 5) + TOT.                        01910000
          COMPUTE TAB (1 7) = TAB (1 7) + TOT GO TO RD-RTN.           01920000
      SIBU-RTN.                                                       01930000
          COMPUTE TAB (1 5) = TAB (1 5) + TOT.                        01940000
          COMPUTE TAB (1 6) = TAB (1 6) + TOT.                        01950000
          COMPUTE TAB (2 5) = TAB (2 5) + TOT.                        01960000
          COMPUTE TAB (2 6) = TAB (2 6) + TOT.                        01970000
          COMPUTE TAB (L 5) = TAB (L 5) + TOT.                        01980000
          COMPUTE TAB (L 6) = TAB (L 6) + TOT GO TO RD-RTN.           01990000
      JEON-CHULB.                                                     02000000
          IF I > 15 MOVE 15 TO I.                                    02010003
          COMPUTE L = I * 3 - 9.                                      02020003
          COMPUTE M = I * 3 - 8.                                      02030003
          COMPUTE N = I * 3 - 7.                                      02040003
          IF GUN < 31 GO TO  KAKA-RTN.                               02050000
          IF JGUN > 02 GO TO KGUN-RTN.                               02060000
          COMPUTE TAB (M 5) = TAB (M 5) + TOT.                        02070000
          COMPUTE TAB (M 7) = TAB (M 7) + TOT.                        02080000
          COMPUTE TAB (L 5) = TAB (L 5) + TOT.                        02090000
          COMPUTE TAB (L 7) = TAB (L 7) + TOT.                        02100000
          COMPUTE TAB (1 5) = TAB (1 5) + TOT.                        02110000
          COMPUTE TAB (1 7) = TAB (1 7) + TOT.                        02120000
          COMPUTE TAB (2 5) = TAB (2 5) + TOT.                        02130000
          COMPUTE TAB (2 7) = TAB (2 7) + TOT GO TO RD-RTN.           02140000
      KGUN-RTN.                                                       02150000
          IF JGUN NOT = 03 GO TO GUKOI-RTN.                          02160000
          COMPUTE TAB (N 5) = TAB (N 5) + TOT.                        02170000
          COMPUTE TAB (N 7) = TAB (N 7) + TOT.                        02180000
          COMPUTE TAB (L 5) = TAB (L 5) + TOT.                        02190000
          COMPUTE TAB (L 7) = TAB (L 7) + TOT.                        02200000
          COMPUTE TAB (1 5) = TAB (1 5) + TOT.                        02210000
          COMPUTE TAB (1 7) = TAB (1 7) + TOT.                        02220000
          COMPUTE TAB (3 5) = TAB (3 5) + TOT.                        02230000
          COMPUTE TAB (3 7) = TAB (3 7) + TOT GO TO RD-RTN.           02240000
      GUKOI-RTN.                                                      02250000
          COMPUTE TAB (36 5) = TAB (36 5) + TOT.                      02260001
          COMPUTE TAB (36 7) = TAB (36 7) + TOT.                      02270001
          COMPUTE TAB (1 5) = TAB (1 5) + TOT.                        02280000
          COMPUTE TAB (1 7) = TAB (1 7) + TOT GO TO RD-RTN.           02290000
      KAKA-RTN.                                                       02300000
          IF JGUN > 02 GO TO KKUN-RTN.                               02310000
          COMPUTE TAB (M 5) = TAB (M 5) + TOT.                        02320000
          COMPUTE TAB (M 6) = TAB (M 6) + TOT.                        02330000
          COMPUTE TAB (L 5) = TAB (L 5) + TOT.                        02340000
          COMPUTE TAB (L 6) = TAB (L 6) + TOT.                        02350000
          COMPUTE TAB (1 5) = TAB (1 5) + TOT.                        02360000
          COMPUTE TAB (1 6)-= TAB (1 6) + TOT.                        02370000
          COMPUTE TAB (2 5) = TAB (2 5) + TOT.                        02380000
          COMPUTE TAB (2 6) = TAB (2 6) + TOT GO TO RD-RTN.           02390000
      KKUN-RTN.                                                       02400000
          IF JGUN NOT = 03 GO TO KKOI-RTN.                           02410000
          COMPUTE TAB (L 5) = TAB (L 5) + TOT.                        02420000
          COMPUTE TAB (L 6) = TAB (L 6) + TOT.                        02430000
          COMPUTE TAB (N 5) = TAB (N 5) + TOT.                        02440000
          COMPUTE TAB (N 6) = TAB (N 6) + TOT.                        02450000
          COMPUTE TAB (1 5) = TAB (1 5) + TOT.                        02460000
          COMPUTE TAB (1 6) = TAB (1 6) + TOT.                        02470000
          COMPUTE TAB (3 5) = TAB (3 5) + TOT.                        02480000
```

```
        COMPUTE TAB (3 6) = TAB (3 6) + TOT GO TO RD-RTN.          02490000
KKOI-RTN.                                                          02500000
        COMPUTE TAB (36 6) = TAB (36 6) + TOT.                     02510001
        COMPUTE TAB (36 5) = TAB (36 5) + TOT.                     02520001
        COMPUTE TAB (1 5) = TAB (1 5) + TOT.                       02530000
        COMPUTE TAB (1 6) = TAB (1 6) + TOT GO TO RD-RTN.          02540000
XX. EXIT.                                                          02550000
GAM-RTN.                                                           02560000
        PERFORM 300 VARYING I FROM 1 BY 1 UNTIL I > 36             02570000
          AFTER J FROM 1 BY 1 UNTIL J > 4.                         02580000
        GO TO WR-RTN.                                              02590000
300.                                                               02600000
        COMPUTE P = J + 4.                                         02610000
        COMPUTE Q = J + 8.                                         02620000
        COMPUTE TAB (I Q) = TAB (I J) - TAB (I P).                 02630000
WR-RTN.                                                            02640000
        PERFORM 444 THRU QQ VARYING I FROM 1 BY 1 UNTIL I > 36.    02650000
        GO TO CLO-RTN.                                             02660000
444.                                                               02670000
        MOVE SPACE TO P-R.                                         02680000
        MOVE TIT (I) TO GI.                                        02690000
        WRITE P-R AFTER 1.                                         02700000
        PERFORM 55 VARYING J FROM 1 BY 1 UNTIL J > 12.             02710000
        WRITE P-R FROM PP-R AFTER 1.                               02720000
        MOVE SPACE TO GI.                                          02730000
        MOVE SPACE TO P-R.                                         02740000
QQ. EXIT.                                                          02750000
55.                                                                02760000
        MOVE TAB (I J) TO PP (J).                                  02770000
CLO-RTN.                                                           02780000
        CLOSE D-F  P-F.                                            02790000
        STOP RUN.                                                  02800000
/*                                                                 02810000
//GO.SYSPRINT DD SYSOUT=*                                          02820000
//GO.INPUT DD UNIT=SYSDA,DSN=A49.VO.WEG(DE862),VOL=SER=BOS242,     02830005
//            DISP=SHR                                             02840000
//GO.OUTPUT DD SYSOUT=*                                            02850000
//GO.SYSOUT DD SYSOUT=*                                            02860000
//                                                                 02870000
```

```
//A49VOWTX JOB CLASS=A,MSGCLASS=X,NOTIFY=A49,USER=A49              00010000
//STEP1 EXEC COBUCLG                                              00020000
//COB.SYSIN DD *        * # 7-1 WOL SET *                         00030000
       ID DIVISION.                                               00040000
       PROGRAM-ID. IDONG-TABLE07.                                 00050000
       AUTHOR. LEE JEONG SUK.                                     00060000
       ENVIRONMENT DIVISION.                                      00070000
       CONFIGURATION SECTION.                                     00080000
       SPECIAL-NAMES.                                             00090000
           C01 IS PPGE.                                           00100000
       INPUT-OUTPUT SECTION.                                      00110000
       FILE-CONTROL.                                              00120000
           SELECT D-F ASSIGN DA-S-INPUT.                          00130000
           SELECT T-F ASSIGN UT-S-INPU1.                          00140000
           SELECT TO-F ASSIGN UT-S-OUTPUU.                        00150000
           SELECT P-F ASSIGN UT-S-OUTPUT.                         00160000
       DATA DIVISION.                                             00170000
       FILE SECTION.                                              00180000
       FD  D-F LABEL RECORD STANDARD BLOCK CONTAINS 25 RECORDS.   00190000
       01  D-R.                                                   00200000
           02   TYY  PIC 99.                                      00210000
           02   TMM PIC 99.                                       00220000
           02   HENJENG.                                          00230000
               03   SIDO PIC 99.                                  00240000
               03   GUN PIC 99.                                   00250000
               03   NON PIC 99.                                   00260000
           02   JEJUJI.                                           00270000
               03   J-DO PIC 99.                                  00280000
               03   J-GUN PIC 99.                                 00290000
           02   CHONG.                                            00300000
               03   CHSU PIC 9(6).                                00310000
               03   CHM PIC 9(6).                                 00320000
               03   CHW PIC 9(6).                                 00330000
           02   KAKU.                                             00340000
               03   DAT1 PIC 9(6).                                00350000
               03   DAT2 PIC 9(6).                                00360000
               03   DAT3 PIC 9(6).                                00370000
               03   DAT4 PIC 9(6).                                00380000
               03   DAT5 PIC 9(6).                                00390000
               03   DAT6 PIC 9(6).                                00400000
           02   F     PIC  X(61).                                 00410000
       FD  T-F LABEL RECORD STANDARD BLOCK CONTAINS 25 RECORDS.   00420000
       01  T-R.                                                   00430000
           02   SYY  PIC 99.                                      00440000
           02   SMM PIC 99.                                       00450000
           02   SHENJENG.                                         00460000
               03   SIDD PIC 99.                                  00470000
               03   SGUN PIC 99.                                  00480000
               03   SNON PIC 99.                                  00490000
           02   SJEJUJI.                                          00500000
               03   S-DO PIC 99.                                  00510000
               03   S-GUN PIC 99.                                 00520000
           02   SCHONG.                                           00530000
               03   SCHSU PIC 9(6).                               00540000
               03   SCHM PIC 9(6).                                00550000
               03   SCHW PIC 9(6).                                00560000
           02   SKAKU.                                            00570000
               03   DATX PIC 9(6).                                00580000
               03   DATB PIC 9(6).                                00590000
               03   DATC PIC 9(6).                                00600000
               03   DATD PIC 9(6).                                00610000
               03   DATY PIC 9(6).                                00620000
```

```
         03    DATF PIC 9(6).                                        00630000
      02  F      PIC  X(61).                                         00640000
FD  TO-F LABEL RECORD STANDARD BLOCK CONTAINS 1 RECORDS.             00650000
01  TO-R.                                                            00660000
         04    TAA OCCURS 2.                                         00670000
            05  B1 PIC -(10).                                        00680000
            05  B2 PIC -(10).                                        00690000
            05  B3 PIC -(10).                                        00700000
            05  B4 PIC -(7)9.9.                                      00710000
FD  P-F LABEL RECORD OMITTED.                                        00720000
01  P-R PIC X(132).                                                  00730000
WORKING-STORAGE SECTION.                                             00740000
77  I   PIC  99    VALUE 0.                                          00750000
77  J   PIC  99    VALUE 0.                                          00760000
77  K   PIC  99    VALUE 0.                                          00770000
77  REC PIC  9(5) VALUE 0.                                           00780000
77  CN PIC 9(2) VALUE 0.                                             00790000
01  TTBLE.                                                           00800000
      03   TA1 OCCURS 6.                                             00810000
         04    TA2 OCCURS 2.                                         00820000
            05  T1 PIC S9(10).                                       00830000
            05  T2 PIC S9(10).                                       00840000
            05  T3 PIC S9(10).                                       00850000
            05  T4 PIC S9(3)V9999999.                                00860000
01  PA-RTN.                                                          00870000
      03 F      PIC  X(2)  VALUE SPACE.                              00880000
      03  GI  PIC X(11).                                             00890000
      03  PP    OCCURS 2.                                            00900000
         04   L1 PIC -(10).                                          00910000
         04   L2 PIC -(10).                                          00920000
         04   L3 PIC -(10).                                          00930000
         04   L4 PIC -(7)9.9.                                        00940000
01  MONO.                                                            00950000
      03 MON1 PIC X(24) VALUE "010203040506070809101112".           00960000
01  MON2 REDEFINES MONO.                                             00970000
      03 MN OCCURS 12 PIC X(2).                                      00980000
01  TITLE-1 PIC X(66) VALUE "T.HOUSEHOLD OCCUPATION    REGISTER      00990000
-   " STUDIESHOUSEMOVING    OTHERS".                                 01000000
01  TITLE-2 REDEFINES TITLE-1.                                       01010000
      03  TIT   OCCURS 6 PIC X(11).                                  01020000
01  TOTOE.                                                           01030000
      03  TO-1 PIC X(75) VALUE "                                     01040000
-   "         #7  IN MIGRANTS BY REASON (86.1)".                     01050000
01  TQTQE.                                                           01060000
      03  TQ-1 PIC X(77) VALUE "                          MONTH      01070000
-   "                          SUM".                                 01080000
01  TPTPE.                                                           01090000
      03  TP-1 PIC X(89) VALUE "                 86.1       85.1     01100000
-   "  INC&DEC   RATES     86.1     85.1   CH.YEAR     ".            01110000
      03  TP-2 PIC X(5) VALUE "RATES".                               01120000
PROCEDURE DIVISION.                                                  01130000
      OPEN INPUT D-F T-F  OUTPUT TO-F P-F.                           01140000
      MOVE ALL "0" TO TTBLE.                                         01150000
      MOVE SPACE TO P-R.                                             01160000
      WRITE P-R AFTER ADVANCING PPGE.                                01170000
      MOVE SPACE TO P-R.                                             01180000
      MOVE TOTOE TO P-R.                                             01190000
      WRITE P-R AFTER 2.                                             01200000
      MOVE SPACE TO P-R.                                             01210000
      MOVE TQTQE TO P-R.                                             01220000
      WRITE P-R AFTER 3.                                             01230000
      MOVE SPACE TO P-R.                                             01240000
```

```
        MOVE TPTPE TO P-R.                                          01250000
        WRITE P-R AFTER 2.                                          01260000
        MOVE SPACE TO P-R.                                          01270000
READ-RTN.                                                           01280000
        READ D-F AT END  GO TO RR-RTN.                              01290000
        IF NON > 28 GO TO READ-RTN.                                 01300000
        ADD DAT1 TO T1 (1 1) T1 (1 2).                              01310000
        ADD DAT2 TO T1 (2 1) T1 (2 2).                              01320000
        ADD DAT3 TO T1 (3 1) T1 (3 2).                              01330000
        ADD DAT4 TO T1 (4 1) T1 (4 2).                              01340000
        ADD DAT5 TO T1 (5 1) T1 (5 2).                              01350000
        ADD DAT6 TO T1 (6 1) T1 (6 2).                              01360000
        GO TO READ-RTN.                                             01370000
RR-RTN.                                                             01380000
        READ T-F AT END  GO TO CLOSE-RTN.                           01390000
        IF SNON > 28  GO TO RR-RTN.                                 01400000
        ADD DATX TO T2 (1 1) T2 (1 2).                              01410000
        ADD DATB TO T2 (2 1) T2 (2 2).                              01420000
        ADD DATC TO T2 (3 1) T2 (3 2).                              01430000
        ADD DATD TO T2 (4 1) T2 (4 2).                              01440000
        ADD DATY TO T2 (5 1) T2 (5 2).                              01450000
        ADD DATF TO T2 (6 1) T2 (6 2).                              01460000
        GO TO RR-RTN.                                               01470000
CLOSE-RTN.                                                          01480000
        PERFORM 500           VARYING K FROM 1 BY 1 UNTIL K > 6.    01490000
        GO TO EE-RTN.                                               01500000
500.                                                                01510000
        COMPUTE T3 (K 1) = T1 (K 1) - T2 (K 1).                     01520000
        COMPUTE T3 (K 2) = T1 (K 2) - T2 (K 2).                     01530000
EE-RTN.                                                             01540000
        PERFORM 600 VARYING J FROM 1 BY 1 UNTIL J > 6.             01550000
        GO TO PP-RTN.                                               01560000
600.                                                                01570000
        IF T2 (J 1) = 0 MOVE 0 TO T4 (J 1) GO TO EX1.               01580000
        COMPUTE T4 (J 1) = T3 (J 1) / T2 (J 1) * 100 + 0.05.        01590000
EX1. EXIT.                                                          01600000
PP-RTN.                                                             01610000
        PERFORM 700 VARYING K FROM 1 BY 1 UNTIL K > 6.             01620000
        GO TO PR-RTN.                                               01630000
700.                                                                01640000
        IF T2 (K 2) = 0 MOVE 0 TO T4 (K 2) GO TO EX2.               01650000
        COMPUTE T4 (K 2) = T3 (K 2) / T2 (K 2) * 100 + 0.05.        01660000
EX2. EXIT.                                                          01670000
PR-RTN.                                                             01680000
        MOVE 0 TO K J.                                              01690000
        PERFORM 444 THRU QQ VARYING K FROM 1 BY 1 UNTIL K > 6.      01700000
        GO TO CLO-RTN.                                              01710000
444.                                                                01720000
        MOVE SPACE TO P-R.                                          01730000
        MOVE TIT (K) TO GI.                                         01740000
        WRITE P-R AFTER 1.                                          01750000
        PERFORM 55 VARYING J FROM 1 BY 1 UNTIL J > 2.              01760000
        WRITE P-R FROM PA-RTN AFTER 2.                              01770000
        WRITE TO-R.                                                 01780000
        MOVE SPACE TO GI P-R.                                       01790000
QQ. EXIT.                                                           01800000
55.                                                                 01810000
        MOVE T1 (K J) TO L1 (J). MOVE T1 (K J) TO B1 (J).           01820000
        MOVE T2 (K J) TO L2 (J). MOVE T2 (K J) TO B2 (J).           01830000
        MOVE T3 (K J) TO L3 (J). MOVE T3 (K J) TO B3 (J).           01840000
        MOVE T4 (K J) TO L4 (J). MOVE T4 (K J) TO B4 (J).           01850000
CLO-RTN.                                                            01860000
```

```
          CLOSE D-F T-F TO-F P-F.                                01870000
          STOP RUN.                                              01880000
/*                                                               01890000
//GO.SYSPRINT DD SYSOUT=*,COPIES=2                               01900000
//GO.INPUT DD UNIT=SYSDA,DSN=A49.VO.WEG(JA862),VOL=SER=BOS242,   01910000
//           DISP=(OLD,KEEP)                                     01920000
//GO.INPU1 DD UNIT=DISK,DSN=A49.VO.WED(JA852K),VOL=SER=BOS242,   01930000
//           DISP=(OLD,KEEP)                                     01940000
//GO.OUTPUU DD UNIT=DISK,DSN=A49.VO.T7,VOL=SER=BOS242,DISP=(OLD,KEEP),   01950000
//           SPACE=(480,1),DCB=(LRECL=480,RECFM=FB,BLKSIZE=480)  01960000
//GO.OUTPUT DD SYSOUT=*                                          01970000
//GO.SYSOUT DD SYSOUT=*                                          01980000
/*                                                               01990000
//                                                               02000000
```

```
//A49VOWTT JOB CLASS=C,MSGCLASS=X,NOTIFY=A49,USER=A49                00010006
//STEP1 EXEC PLIFCLG                                                00020006
//*PLI.SYSPRINT DD SYSOUT=*                                         00030006
//PLI.SYSIN DD *      * 1 WOL SET *                                 00040006
* PROCESS GS,NEST,OPT(2),S,XREF,A;                                  00050006
      /* THIS PROGRAM IS MADE BY LEE JEONG SOOK */                  00060007
    SV062: PROC OPTIONS(MAIN);                                      00070006
       DCL  TPI FILE RECORD INPUT;                                  00080006
       DCL 1 IN CHAR(129);                                          00090006
       DCL 1 IN1 DEF IN,      /* THE FIRST STYLE */                 00100006
           2 YEAR1    PIC '99',                                     00110006
           2 MONTH1   PIC '99',                                     00120006
           2 CIDO1    PIC '99',                                     00130006
           2 GUN1     PIC '99',                                     00140006
           2 NO1      PIC '99',                                     00150006
           2 F11      CHAR(110),                                    00160006
           2 TH       PIC '(8)9',                                   00170006
           2 ID1      CHAR(1);                                      00180006
       DCL 1 IN2  DEF IN,      /* THE SECOND STYLE */               00190006
           2 YEAR2    PIC '99',                                     00200006
           2 MONTH2   PIC '99',                                     00210006
           2 HAENG    PIC '(4)9',                                   00220006
           2 NON      PIC '99',                                     00230006
           2 JEAN     PIC '(4)9',                                   00240006
           2 TB       PIC '(6)9',                                   00250006
           2 TH       PIC '(6)9',                                   00260006
           2 TF       PIC '(6)9',                                   00270006
           2 F22      CHAR(96),                                     00280006
           2 ID2      CHAR(1);                                      00290006
       DCL TPO FILE RECORD OUTPUT;                                  00300006
       DCL 1 OUT,         /* SUMMARY OUT TAPE */                    00310006
           2 OMM(16,4,2) PIC '(10)9';                               00320006
       DCL ARY1(16,4,2) FIXED DEC(9) INIT((128)0); /* TABLE_1 ARRAY */ 00330006
       DCL ARY13(36,3,5) FIXED DEC(9) INIT((540)0); /* TABLE_13 ARRAY */ 00340006
       DCL ARY12(16,3,3,2) FIXED DEC(10,3) INIT((288)0); /* TABLE_12 */ 00350006
       DCL ARY15(8,16,3,3) FIXED DEC(9)  INIT((1152)0); /* TABLE_15 */ 00360006
       DCL HAENG_CIDO PIC '99' DEF IN POSITION(5),                  00370006
           HAENG_GUN PIC '99' DEF IN POSITION(7),                   00380006
           JEAN_CIDO PIC '99' DEF IN POSITION(11),                  00390006
           JEAN_GUN  PIC '99' DEF IN POSITION(13);                  00400006
       DCL HADD CHAR(80) INIT('WHOLESEOULBUSANDAEGUINCHEKWANJGYEGIGWEONCH 00410006
BUGCHNAMJEBUGJENAMGYBUGGYNAMJE_JUOTHER');                           00420006
       DCL HD(16) CHAR(5) DEF HADD;                                 00430006
       DCL TRY(8,16,3,3) FIXED DEC(7,3);    /* TABLE 15 BIYUL */    00440006
       DCL HAD(15) PIC '99' INIT(11,21,22,23,24,31,32,33,34,35,36,37,38,3 00450006
9,40);                                                             00460006
       DCL HAENG_GUBUN(6) PIC '(4)9' INIT(2211,2311,2411,3400,3511,3811); 00470006
       DCL JEAN_GUBUN(8) PIC '(4)9' INIT(1101,2101,2201,2301,2401,3401,35 00480006
01,3801);                                                          00490006
       DCL GUBUN(16) PIC '99' INIT(3,1,1,1,1,1,3,3,3,3,3,3,3,3,3,1); 00500006
       DCL GBB CHAR(108) INIT('SI GUNTOTSI SI SI SI SI SI GUNTOTSI GUNTOT 00510006
SI GUNTOTSI GUNTOTSI GUNTOTSI GUNTOTSI GUNTOTGUN') ;               00520006
       DCL GB(36) CHAR(3) DEF GBB ;                                 00530006
       DCL TILT CHAR(56) INIT(' SEOUL  BUSAN  DAEGUINCHEONKWANGJUDAEJEON 00540006
JEONJU  MASAN');                                                   00550006
       DCL TITLE(8) CHAR(7) DEF TILT;                               00560006
       DCL (WY,WK) PIC '99';                                        00570006
       DCL CCD CHAR(2);                                             00580006
       ON ENDFILE(TPI) GO TO ENDP;                                  00590006
       OPEN FILE(SYSPRINT) LINESIZE(132);                           00600006
       WY=86;  WK=01;                                               00610006
       READ: READ FILE(TPI) INTO(IN) ;                              00620006
```

```
        IF ID2 = '2' & NON > 28 THEN GO TO READ;                              00630006
        IF ID1 = '1' & GUN1 = 99 THEN GO TO READ;                            00640006
        IF ID1 = '1' & NO1 = 99 THEN GO TO READ;                             00650006
        IF ID1 ㄱ='1' THEN GO TO STYLE_2;                                     00660006
        IF YEAR1ㄱ=WY | MONTH1ㄱ=WK THEN GO TO READ ;                          00670006
/***********************************************************************/     00680006
/***********************************************************************/     00690006
/***********************************************************************/     00700006
/************    THE  FIRST  STYLE    ****************************/            00710006
/***********************************************************************/     00720006
/***********************************************************************/     00730006
/***********************************************************************/     00740006
        I=2;                                                                  00750006
        DO M=1 TO 14;                                                         00760006
        IF CIDO1=HAD(M) THEN GO TO A1;                                        00770006
        I=I+1;                                                                00780006
        END;                                                                  00790006
A1:     ARY1(I,4,1)=ARY1(I,4,1)+TH;   /* ** ADD TO TABLE 1 ** */              00800006
        ARY1(I,4,2)=ARY1(I,4,2)+TH;                                          00810006
        GO TO READ ;                                                          00820006
/***********************************************************************/     00830006
/***********************************************************************/     00840006
/***********************************************************************/     00850006
/************    THE SECOND  STYLE    ****************************/            00860006
/***********************************************************************/     00870006
/***********************************************************************/     00880006
/***********************************************************************/     00890006
  STYLE_2:                                                                    00900006
     IF YEAR2ㄱ=WY THEN GO TO READ ;                                          00910006
     IF HAENG_CIDO = 22 | HAENG_CIDO = 23 | HAEBG_CIDO = 24                  00920006
     THEN HAENG_GUN = 11;                                                    00930006
/***********************************************************************/     00940006
/************    I N C O M E    ****************************/                  00950006
/***********************************************************************/     00960006
     I=2;                                                                    00970006
     DO M=1 TO 14;                                                           00980006
     IF HAENG_CIDO = HAD(M) THEN GO TO B1;                                   00990006
     I=I+1;                                                                  01000006
     END ;                                                                   01010006
B1: IF MONTH2 ㄱ=WK  THEN GO TO SUM ;                                        01020006
     ARY1(I,1,1) = ARY1(I,1,1)+TB;  /* ** ADD TO MONTH ** */                 01030006
     ARY1(I,1,2) = ARY1(I,1,2)+TB;  /* ** ADD TO SUM   ** */                 01040006
     ARY12(I,1,1,1)=ARY12(I,1,1,1)+TB; /* ADD TO INCOME,TOTAL */             01050006
/**************** SI_GUN  COMPARISION   *********************/                01060006
     IF I<=6 THEN K=I+2;                                                     01070006
          ELSE IF I=16 THEN K=36;                                           01080006
               ELSE IF HAENG_GUN < 31 THEN K=(I-4)*3;                       01090006
                    ELSE K=(I-4)*3+1;                                       01100006
/************        ADD  TO TABLE13  INCOME   ****************/              01110006
     ARY13(K,1,1)=ARY13(K,1,1)+TB;                                          01120006
     ARY13(K,1,2)=ARY13(K,1,2)+TM;                                          01130006
     ARY13(K,1,3)=ARY13(K,1,3)+TF;                                          01140006
/***********************************************************************/     01150006
/********************        OUT        **********************/               01160006
/***********************************************************************/     01170006
     J=2;                                                                   01180006
     DO M=1 TO 14;                                                          01190006
     IF JEAN_CIDO=HAD(M) THEN GO TO C1;                                     01200006
     J=J+1;                                                                 01210006
     END;                                                                   01220006
C1: ARY1(J,2,1)=ARY1(J,2,1)+TB;         /* ADD TO MONTH */                   01230006
    ARY1(J,2,2)=ARY1(J,2,2)+TB;         /* ADD TO SUM   */                   01240006
```

```
    ARY12(J,2,1,1)=ARY12(J,2,1,1)+TB; /* ADD TO OUT,  TOTAL */        01250006
/*********************** SI_GUN  COMPARISON  **************************/   01260006
    IF J<=6 THEN L=J+2;                                               01270006
            ELSE IF J=16 THEN L=36;            .                      01280006
                ELSE IF JEAN_GUN < 3 THEN L=(J-4)*3;                  01290006
                    ELSE L=(J-4)*3+1; ·                               01300006
    ARY13(L,2,1)=ARY13(L,2,1)+TB;                                     01310006
    ARY13(L,2,2)=ARY13(L,2,2)+TM;                                     01320006
    ARY13(L,2,3)=ARY13(L,2,3)+TF;                                     01330006
/************* HAENG_JEAN COMPARISON  ****************************/    01340006
    IF I=J THEN DO;                                                   01350006
    ARY12(I,1,2,1)=ARY12(I,1,2,1)+TB;                                 01360006
    ARY12(I,2,2,1)=ARY12(I,2,2,1)+TB;                                 01370006
    ARY13(K,1,4)=ARY13(K,1,4)+TB;                                     01380006
    ARY13(L,2,4)=ARY13(L,2,4)+TB;                                     01390006
        END ;                                                        01400006
    ELSE;                                                            01410006
/*********************************************************************** */  01420006
/************* TABULATION 15        ********************** */         01430006
/*********************************************************************** */  01440006
    IF HAENG_CIDO = 11 THEN I=1 ;   /* INCOME */                     01450006
        ELSE IF HAENG_CIDO = 21 THEN I=2;                            01460006
        ·  ELSE DO;                                                  01470006
                        I=3;                                         01480006
                        DO M=1 TO 6;                                 01490006
                            IF HAENG=HAENG_GUBUN(M) THEN GO TO D1;   01500006
        I=I+1;                                                       01510006
        END ;                                                        01520006
        GO TO E1;  /* GO TO OUT */                                   01530006
        END ;                                                        01540006
D1: J=2;                                                             01550006
    DO M=1 TO 14;                                                    01560006
    IF JEAN_CIDO = HAD(M) THEN GO TO D2;                             01570006
    J=J+1;                                                           01580006
    END ;                                                            01590006
D2:  ARY15(I,J,1,1)=ARY15(I,J,1,1)+TB;                               01600006
     ARY15(I,J,1,2)=ARY15(I,J,1,2)+TM;                               01610006
     ARY15(I,J,1,3)=ARY15(I,J,1,3)+TF;                               01620006
E1: DO I=1 TO 8;   /* OUT */                                         01630006
    IF JEAN=JEAN_GUBUN(I) THEN GO TO E2;                             01640006
    END ;                                                            01650006
    GO TO READ ;                                                     01660006
E2:  J=2;                                                            01670006
    DO M=1 TO 14;                                                    01680006
    IF HAENG_CIDO = HAD(M) THEN GO TO E3;                            01690006
    J=J+1;                                                           01700006
    END ;                                                            01710006
E3: ARY15(I,J,2,1)=ARY15(I,J,2,1)+TB ;                               01720006
    ARY15(I,J,2,2)=ARY15(I,J,2,2)+TM ;                               01730006
    ARY15(I,J,2,3)=ARY15(I,J,2,3)+TF ;                               01740006
    GO TO READ;                                                      01750006
    /***************************************************************** */ 01760006
    /************* S U M A T I O N    ******************** */         01770006
    /***************************************************************** */ 01780006
SUM:IF MONTH2 > WK THEN GO TO READ ;                                 01790006
        ARY1(I,1,2)=ARY1(I,1,2)+TB ;                                 01800006
        I=2;                                                         01810006
        DO M=1 TO 14;                                                01820006
        IF JEAN_CIDO = HAD(M) THEN GO TO G1;                         01830006
        I=I+1;                                                       01840006
        END ;                                                        01850006
G1:  ARY1(I,2,2)=ARY1(I,2,2)+TB ;                                    01860006
```

```
          GO TO READ;                                                        01870006
/**********************************************************************/      01880006
/**********************************************************************/      01890006
/***************           THE ROUTINE OF ENDFILE         **********/         01900006
/**********************************************************************/      01910006
/**********************************************************************/      01920006
ENDP:                                                                        01930006
            DO I=2 TO 16; /* ** TABLE 1 ** */                                 01940006
     DO J=1 TO 4;                                                            01950006
     DO K=1 TO 2;                                                            01960006
     ARY1(I,3,K)=ARY1(I,1,K)-ARY1(I,2,K);                                    01970006
     ARY1(1,J,K)=ARY1(1,J,K)+ARY1(I,J,K);                                    01980006
     END ;                                                                   01990006
       END ;                                                                 02000006
     END;                                                                    02010006
     DO I=2 TO 16 ;           /* ** TABLE 12 ** */                           02020006
     DO J=1 TO 2;                                                            02030006
     ARY12(I,J,3,1)=ARY12(I,J,1,1)-ARY12(I,J,2,1);                           02040006
     END ;                                                                   02050006
     ARY12(I,3,1,1)=ARY12(I,1,1,1)-ARY12(I,2,1,1);                           02060006
     DO J=1 TO 3;                                                            02070006
       DO K=1 TO 3;                                                          02080006
       ARY12(1,J,K,1)=ARY12(1,J,K,1)+ARY12(I,J,K,1);                         02090006
     END ;                                                                   02100006
       END ;                                                                 02110006
        END ;                                                                02120006
     DO I=1 TO 16 ;      /* ** RATE ** */                                    02130006
      DO J=1 TO 3;                                                           02140006
       DO K=1 TO 3;                                                          02150006
         IF ARY1(I,4,1)=0 THEN ARY12(I,J,K,2)=0;                             02160006
                       ELSE DO;                                              02170006
         ARY12(I,J,K,2)=ARY12(I,J,K,1)/ARY1(I,4,1)*100;                      02180006
         ARY12(I,J,K,2)=ROUND(ARY12(I,J,K,2),1);                             02190006
                  END ;                                                      02200006
                  END ;                                                      02210006
            END ;                                                            02220006
          END ;                                                              02230006
/* ****************** TABLE 13        ****************************** */        02240006
     DO I=4 TO 36;                                                           02250006
     DO J=1 TO 2;                                                            02260006
     ARY13(I,J,5)=ARY13(I,J,1)-ARY13(I,J,4);   /* SI_DO GAN */               02270006
     DO K=1 TO 5;                                                            02280006
       ARY13(I,3,K)=ARY13(I,1,K)-ARY13(I,2,K); /* SOON I_DONG */             02290006
     END ;                                                                   02300006
     END ;                                                                   02310006
     END ;                                                                   02320006
     DO J=1 TO 3;                                                            02330006
       DO K=1 TO 5;                                                          02340006
     ARY13(1,J,K)=ARY13(1,J,K)+ARY13(4,J,K);    /* TOTAL */                  02350006
     ARY13(3,J,K)=ARY13(3,J,K)+ARY13(4,J,K);                                 02360006
     ARY13(1,J,K)=ARY13(1,J,K)+ARY13(5,J,K);                                 02370006
     ARY13(3,J,K)=ARY13(3,J,K)+ARY13(5,J,K);                                 02380006
     ARY13(1,J,K)=ARY13(1,J,K)+ARY13(6,J,K);                                 02390006
     ARY13(3,J,K)=ARY13(3,J,K)+ARY13(6,J,K);                                 02400006
     ARY13(1,J,K)=ARY13(1,J,K)+ARY13(7,J,K);                                 02410006
     ARY13(3,J,K)=ARY13(3,J,K)+ARY13(7,J,K);                                 02420006
     ARY13(2,J,K)=ARY13(2,J,K)+ARY13(35,J,K);                                02430006
     ARY13(3,J,K)=ARY13(3,J,K)+ARY13(35,J,K);                                02440006
     END ;                                                                   02450006
     END ;                                                                   02460006
     DO I=9 TO 35 BY 3 ; L=I+2; M=I+1;                                       02470006
       DO J=1 TO 3;                                                          02480006
```

```
              DO K=1 TO 5;                                                    02490006
              ARY13(L,J,K)=ARY13(L,J,K)+ARY13(I,J,K);                         02500006
              ARY13(L,J,K)=ARY13(L,J,K)+ARY13(M,J,K);                         02510006
              ARY13(1,J,K)=ARY13(1,J,K)+ARY13(I,J,K);                         02520006
              ARY13(2,J,K)=ARY13(2,J,K)+ARY13(M,J,K);                         02530006
              ARY13(3,J,K)=ARY13(3,J,K)+ARY13(L,J,K);                         02540006
            END ;                                                             02550006
          END ;                                                               02560006
            END ;                                                             02570006
   /* ******************** TABLE  15  ******************** */                 02580006
      DO I=1 TO 8;                                                            02590006
        DO J=2 TO 16;                                                         02600006
          DO L=1 TO 3;                                                        02610006
            ARY15(I,J,3,L)=ARY15(I,J,1,L)-ARY15(I,J,2,L);                     02620006
          END ;                                                               02630006
          DO K=1 TO 3;                                                        02640006
            DO L=1 TO 3;                                                      02650006
              ARY15(I,1,K,L)=ARY15(I,1,K,L)+ARY15(I,J,K,L);                   02660006
            END ;                                                             02670006
           END ;                                                              02680006
          END ;                                                               02690006
        END ;                                                                 02700006
        DO I=1 TO 8;                                                          02710006
          DO J=1 TO 16;                                                       02720006
            DO L=1 TO 3;                                                      02730006
            DO K=1 TO 3;                                                      02740006
     IF ARY15(I,1,L,K)=0 THEN TRY(I,J,L,K)=0;                                 02750006
     ELSE TRY(I,J,L,K)=ARY15(I,J,L,K)/ARY15(I,1,L,K)*100+0.05;               02760006
     END ;                                                                    02770006
       END ;                                                                  02780006
          END ;                                                               02790006
        END ;                                                                 02800006
   /* ***************************************************************** */    02810006
   /* **************  THE  ROUTINE  OF  PRINT  ***************** */           02820006
   /* ***************************************************************** */    02830006
   /* **************  TABLE-1  PRINT           ***************** */           02840006
     PUT PAGE EDIT('TABLE 1         MIGRANTS BY MONTH')(COL(25),A);          02850006
     PUT SKIP(0) EDIT(WY,WK)  (COL(70),F(2),X(5),F(2));                       02860006
    ·PUT SKIP(3) EDIT('TOTAL IN         TOTAL OUT        NET                 02870006
          POPULATION')  (COL(25),A);                                         02880006
     PUT SKIP(3) EDIT((4)'      MONTH      SUM')(COL(20),A);                  02890006
     DO I=1 TO 16;                                                           02900006
        PUT SKIP(3) EDIT(IID(I),((ARY1(I,J,K) DO K=1 TO 2) DO J=1 TO         02910006
             4))  (X(15),A(5),8(P'---------9'));                             02920006
          END ;                                                              02930006
   /* ********* SUMMARY OUT TAPE ********* */                                02940006
     DO I=1 TO 16;                                                           02950006
       DO J=1 TO 4;                                                          02960006
         DO K=1 TO 2;                                                        02970006
           OMM(I,J,K)=ARY1(I,J,K);                                           02980006
       END ;                                                                 02990006
       END ;                                                                 03000006
       END ;                                                                 03010006
         WRITE FILE(TPO) FROM(OUT);                                          03020006
   /* ********************** TABLE-12  PRINT  **********************/         03030006
     PUT PAGE EDIT('TABLE 12            MIGRANTS BY PROVINCE')                03040006
         (COL(26),A);                                                        03050006
     PUT SKIP(0) EDIT(WY,WK)  (COL(75),F(2),X(5),F(2));                       03060006
     PUT SKIP(2) EDIT('TOTAL IN-MIGRANTS                                   T03070006
OTAL OUT-MIGRANTS            NET-MIGRATION')  (COLUMN(20),A);                 03080006
         PUT SKIP(2) EDIT('                  INTRA-PROVINCE INTER-PROVINC    03090006
E               INTRA-PROVINCE INTER-PROVINCE')  (COL(6),A);                  03100006
```

— 160 —

```
      PUT SKIP(2) EDIT((7)' NUMBER  RATES') (COL(6),A);                 03110006
      DO I=1 TO 16;                                                     03120006
      PUT SKIP(2) EDIT(HD(I),(((ARY12(I,J,K,L) DO L=1 TO 2) DO K=1 TO   03130006
      3) DO J=1 TO 3))                                                  03140006
              (A(5),7(P'-------9',P'----9V.9'),4(P'(7)Z'));             03150006
          END ;                                                        03160006
/* ********************    TABLE 13  PRINT   ******************** */     03170006
      PUT PAGE EDIT('TABLE 13        MIGRANTS BY ALL SIS AND ALL GUNS O  03180006
F  PROVINCES                 UNIT:PERSON') (COL(20),A);                 03190006
      PUT SKIP(0) EDIT(WY,WK) (COL(118),F(2),X(5),F(2));                03200006
      PUT SKIP(2) EDIT('IN_MIGRANTS                      OUT-MIGRANT     03210006
S                   NET-MIGRATION') (COL(27),A);                       03220006
      PUT SKIP(2) EDIT((3)' TOTAL   MALE FEMALE  INTRA   INTER')        03230006
      (COL(20),A);                                                     03240006
          M=0; N=1;                                                    03250006
          DO I=1 TO 36 ;                                               03260006
            PUT SKIP(2) EDIT(HD(N),GB(I),((ARY13(I,J,K) DO K=1 TO 5) DO J03270006
            = 1 TO 3))                                                 03280006
                  (X(6),A(5),X(3),A(5),15(P'------9'));                03290006
            M=M+1;                                                      03300006
            IF M=GUBUN(N) THEN DO;                                     03310006
            N=N+1; M=0;                                                03320006
            END ;                                                      03330006
            END ;                                                      03340006
   /* *******************    TABLE  15   ******************** */.       03350006
      DO I=1 TO 8;                                                      03360006
      PUT PAGE EDIT('TABLE 15 MIGRANTS FOR THE 8 LARGEST CITIES BY PROV  03370006
INCE    ') (COL(21),A);                                                03380006
      PUT SKIP(0) EDIT(WY,WK) (COL(80),F(2),X(5),F(2));                03390006
      PUT SKIP(0) EDIT(TITLE(I)) (COL(90),A);                         03400006
      PUT SKIP(3) EDIT('IN_MIGRANTS','OUT_MIGRANTS','NET_MIGRATION')    03410006
              (X(22),A(29),A(30),A(13)) ;                             03420006
      PUT SKIP(3) EDIT((3)'BOTH SEXES     MALE   FEMALE ')             03430006
              (COL(11),A);                                            03440006
          DO J=1 TO 16;                                                03450006
      PUT SKIP(2) EDIT(HD(J),((ARY15(I,J,K,L) DO L=1 TO 3)            03460006
                      DO K=1 TO 3))                                    03470006
            (X(3),A(7),9(P'---------9'));                             03480006
      PUT SKIP EDIT(((TRY(I,J,K,L) DO L=1 TO 3) DO K=1 TO 3))         03490006
                  (X(10),9(P'------9V.9',X(1)));                      03500006
      PUT SKIP(0) EDIT((9)' (     )')                                 03510006
                            (X(10),9 A);                              03520006
          END ;                                                       03530006
          END ;                                                       03540006
          CLOSE FILE(TPI),FILE(TPO);                                  03550006
          END SV062;                                                  03560006
/*                                                                    03570006
//GO.TPI DD UNIT=DISK,DSN=A49.VO.WED(MAXA),VOL=SER=BOS242,            03580006
//         DISP=(OLD,KEEP)                                            03590006
//GO.TPO DD UNIT=DISK,DSN=A49.VO.TT,VOL=SER=BOS242,SPACE=(1280,1),    03600006
//         DCB=(BLKSIZE=1280,LRECL=1280,RECFM=FB),DISP=(OLD,KEEP)     03610006
//GO.SYSOUT DD SYSOUT=*                                               03620006
//GO.SYSPRINT DD SYSOUT=*                                             03630006
/*                                                                    03640006
//                                                                    03650006
```

```
//A49VOWT1 JOB CLASS=A,MSGCLASS=X,NOTIFY=A49                        00010023
//STEP1 EXEC PLIFCLG                                                00020023
//PLI.SYSIN DD *   * #1WOL AFTER  *                                 00030023
* PROCESS GS,NEST,OPT(2),OFFSET;                                    00040023
   /* THIS PROGRAM IS MADE BY LEE JEONG SOOK */                     00050024
      SV062: PROC OPTIONS(MAIN);                                    00060023
      DCL  TPI FILE RECORD INPUT;                                   00070023
      DCL  1 IN   CHAR(129);                                        00080023
      DCL  1 IN1  DEF IN,          /* THE FIRST STYLE */            00090023
              2 YEAR1      PIC '99',                                00100023
              2 MONTH1     PIC '99',                                00110023
              2 CIDO1      PIC '99',                                00120023
              2 ILNO       PIC '99',                                00130023
              2 F11        CHAR(112),                               00140023
              2 TH         PIC '(8)9',                              00150023
              2 ID1        CHAR(1);                                 00160023
      DCL  1 IN2  DEF IN,          /* THE SECOND STYLE */           00170023
              2 YEAR2      PIC '99',                                00180023
              2 MONTH2     PIC '99',                                00190023
              2 HAENG      PIC '(4)9',                              00200023
              2 NON  PIC '99',                                      00210023
              2 JEAN       PIC '(4)9',                              00220023
              2 TB         PIC '(6)9',                              00230023
              2 TM         PIC '(6)9',                              00240023
              2 TF         PIC '(6)9',                              00250023
              2 F22        CHAR(96),                                00260023
              2 ID2        CHAR(1);                                 00270023
      DCL  TP11 FILE RECORD INPUT;                                  00280023
      DCL  1 INO,                 /* SUMMARY NUGYE READ */          00290023
              2 MOMM(16,8) PIC '(10)9';                             00300023
      DCL  TPO FILE RECORD OUTPUT;                                  00310023
      DCL  1 OUT,       /* SUMMMARY OUT TAPE */                     00320023
              2 OMM(16,4,2) PIC '(10)9';                            00330023
      DCL  ARY1(16,4,2) FIXED DEC(9) INIT((128)0); /* TABLE_1 ARRAY */  00340023
      DCL  ARY13(36,3,5) FIXED DEC(9) INIT((540)0); /* TABLE-13 ARRAY */ 00350023
      DCL  ARY12(16,3,3,2) FIXED DEC(10,3) INIT((288)0); /* TABLE-12 */  00360023
      DCL  ARY15(8,16,3,3) FIXED DEC(9)  INIT((1152)0); /* TABLE-15 */   00370023
      DCL  HAENG_CIDO   PIC '99' DEF IN   POSITION(5),             00380023
           HAENG_GUN    PIC '99' DEF IN POSITION(7),               00390023
           JEAN_CIDO    PIC '99'  DEF IN POSITION(11),             00400023
           JEAN_GUN     PIC '99'  DEF  IN  POSITION(13);           00410023
      DCL  HADD CHAR(80) INIT('WHOLESEOULBUSANDAEGUINCHEKWANJGYEGIGWEONC  00420023
HBUGCHNAMJEBUGJENAMGYBUGGYNAMJE_JUOTHER');                          00430023
      DCL  HD(16)  CHAR(5) DEF HADD;                                00440023
      DCL  TRY(8,16,3,3) FIXED DEC(7,3);                            00450023
      DCL  HAD(15) PIC '99' INIT(11,21,22,23,24,31,32,33,34,35,36,37,38,  00460023
39,40);                                                             00470023
      DCL  HAENG_GUBUN(4)  PIC '(4)9' INIT(2400,3400,3511,3811);   00480023
      DCL  JEAN_GUBUN(8) PIC '(4)9' INIT(1101,2101,2201,2301,2401,3401,3  00490023
501,3801);                                                          00500023
      DCL  GUBUN(16) PIC '99' INIT(3,1,1,1,1,1,3,3,3,3,3,3,3,3,3,1);  00510023
      DCL  GBB CHAR(108) INIT('SI GUNTOTSI SI SI SI SI SI GUNTOTSI GUNTO  00520023
TSI GUNTOTSI GUNTOTSI GUNTOTSI GUNTOTSI GUNTOTSI GUNTOTSI GUNTOTGUN');  00530023
      DCL  GB(36) CHAR(3) DEF GBB;                                  00540023
      DCL  TILT CHAR(56) INIT('  SEOUL   BUSAN   DAEGUINCHEON KWANJUDAEJEO  00550023
N JEONJU   MASAN');                                                 00560023
      DCL  TITLE(8) CHAR(7) DEF TILT;                               00570023
      DCL  (WY,WK) PIC '99';                                        00580023
      DCL  CCD  CHAR(2);                                            00590023
      ON ENDFILE(TPI) GO TO ENDP;                                   00600023
      ON ENDFILE(TPI1) GO TO ERR;                                   00610023
      OPEN FILE(SYSPRINT) LINESIZE(132);                            00620023
```

— 162 —

```
        WY=86;   WK=12;                                              00630023
READ: READ FILE(TPI) INTO(IN);                                       00640023
        IF ID2 = '2' & NON > 28 THEN GO TO READ;                     00650023
        IF ID1 = '1' & ILNO = 99  THEN GO TO READ;                   00660023
        IF ID1 '='1' THEN GO TO STYLE_2;                             00670023
        IF YEAR1¬=WY | MONTH1¬=WK THEN GO TO READ;                   00680023
/* ********************************************************** */     00690023
/* ********************************************************** */     00700023
/* ***************                 ******************** */           00710023
/* ***************    THE  FIRST  STYLE   ****************** */       00720023
/* ***************                ******************* */             00730023
/* ********************************************************** */     00740023
/* ********************************************************** */     00750023
        I=2;                                                         00760023
   DO M=1 TO 14;                                                     00770023
        IF CIDO1=HAD(M) THEN GO TO A1;                               00780023
        I=I+1;                                                       00790023
        END;                                                         00800023
   A1:  ARY1(I,4,1)=ARY1(I,4,1)+TH;  /* ** ADD TO TABLE 1 ** */      00810023
        ARY1(I,4,2)=ARY1(I,4,2)+TH;                                  00820023
        GO TO READ;                                                  00830023
/* ********************************************************** */     00840023
/* ********************************************************** */     00850023
/* ***************                 ******************** */           00860023
/* ***************    THE  SECOND  STYLE   **************** */       00870023
/* ***************                ******************* */             00880023
/* ********************************************************** */     00890023
/* ********************************************************** */     00900023
   STYLE_2:                                                          00910023
        IF YEAR2¬=WY THEN GO TO READ;                                00920023
        IF HAENG_CIDO = 22 | HAENG_CIDO = 23 THEN HAENG_GUN = 11;    00930023
/* ********************************************************** */     00940023
/* ********    I N C O M E    ***************************** */       00950023
/* ********************************************************** */     00960023
        I=2;                                                         00970023
        DO M=1 TO 14;                                                00980023
        IF HAENG_CIDO = HAD(M) THEN GO TO B1;                        00990023
        I=I+1;                                                       01000023
        END;                                                         01010023
   B1:  IF MONTH2 ¬=WK  THEN GO TO SUM;                              01020023
        ARY1(I,1,1) = ARY1(I,1,1)+TB;    /* ** ADD TO MONTH ** */    01030023
        ARY1(I,1,2) = ARY1(I,1,2)+TB;    /* ** ADD TO SUM   ** */    01040023
        ARY12(I,1,1,1)=ARY12(I,1,1,1)+TB; /* ADD TO INCOME,TOTAL */  01050023
/* ***************    SI-GUN  COMPARISION   *************** */       01060023
        IF I <=6 THEN K=I+2;                                         01070023
                ELSE IF I=16 THEN  K=36;                             01080023
                     ELSE IF HAENG_GUN <31 THEN K=(I-4)*3;           01090023
                         ELSE K=(I-4)*3+1;                           01100023
/* ** ***************    ADD TO TABLE13 INCOME   ************* */    01110023
        ARY13(K,1,1)=ARY13(K,1,1)+TB;                                01120023
        ARY13(K,1,2)=ARY13(K,1,2)+TM;                                01130023
        ARY13(K,1,3)=ARY13(K,1,3)+TF;                                01140023
/* ********************************************************** */     01150023
/* *********************    OUT    *********************** */        01160023
/* ********************************************************** */     01170023
        J=2;                                                         01180023
        DO M=1 TO 14;                                                01190023
        IF JEAN_CIDO=HAD(M) THEN GO TO C1;                           01200023
        J=J+1;                                                       01210023
        END;                                                         01220023
   C1:  ARY1(J,2,1)=ARY1(J,2,1)+TB;          /* ADD TO MONTH */      01230023
        ARY1(J,2,2)=ARY1(J,2,2)+TB;          /* ADD TO SUM   */      01240023
```

```
          ARY12(J,2,1,1)=ARY12(J,2,1,1)+TB; /* ADD TO OUT.   TOTAL */        01250023
/* ***************   SI_GUN    COMPARISON   ********************** */          01260023
          IF J<=6 THEN L=J+2;                                                  01270023
               ELSE IF J=16 THEN L=36;                                         01280023
                 ELSE IF JEAN_GUN<3  THEN L=(J-4)*3;                           01290023
                     ELSE L=(J-4)*3+1;                                         01300023
          ARY13(L,2,1)=ARY13(L,2,1)+TB;                                        01310023
          ARY13(L,2,2)=ARY13(L,2,2)+TM;                                        01320023
          ARY13(L,2,3)=ARY13(L,2,3)+TF;                                        01330023
/* *******************   HAENG-JEAN COMPARISON    ************* */             01340023
          IF  I=J THEN DO;                                                     01350023
               ARY12(I,1,2,1)=ARY12(I,1,2,1)+TB;                              01360023
               ARY12(I,2,2,1)=ARY12(I,2,2,1)+TB;                              01370023
               ARY13(K,1,4)=ARY13(K,1,4)+TB;                                  01380023
               ARY13(L,2,4)=ARY13(L,2,4)+TB;                                  01390023
               END;                                                           01400023
            ELSE;                                                             01410023
/* ******************************************************************* */     01420023
/* ********************   TABULATION 15    ****************** */               01430023
/* ******************************************************************* */     01440023
          IF HAENG_CIDO = 11 THEN I=1;           /* IMCOME */                  01450023
            ELSE IF HAENG_CIDO = 21 THEN I=2;                                  01460023
            ELSE IF HAENG_CIDO = 22 THEN I=7;                                  01470023
            ELSE IF HAENG_CIDO = 23 THEN I=3;                                  01480023
               ELSE DO;                                                        01490023
               I=4;                                                           01500023
               DO M=1 TO 4;                                                    01510023
                  IF HAENG = HAENG_GUBUN(M) THEN GO TO D1;                     01520023
               I=I+1;                                                          01530023
               IF I=7 THEN I=I+1;                                             01540023
               END;                                                           01550023
               GO TO E1;    /* GO TO OUT */                                    01560023
            END;                                                              01570023
  D1:   J=2;                                                                   01580023
        DO M=1 TO 14;                                                          01590023
        IF JEAN_CIDO = HAD(M) THEN GO TO D2;                                  01600023
        J=J+1;                                                                 01610023
        END;                                                                  01620023
  D2:   ARY15(I,J,1,1)=ARY15(I,J,1,1)+TB;                                      01630023
        ARY15(I,J,1,2)=ARY15(I,J,1,2)+TM;                                      01640023
        ARY15(I,J,1,3)=ARY15(I,J,1,3)+TF;                                      01650023
  E1:   DO I=1 TO 8;                         /*  OUT  */                       01660023
        IF JEAN=JEAN_GUBUN(I) THEN GO  TO E2;                                  01670023
        END;                                                                  01680023
        GO TO READ;                                                          01690023
  E2:   J=2;                                                                   01700023
        DO M=1 TO 14;                                                          01710023
        IF HAENG_CIDO = HAD(M) THEN GO TO E3;                                 01720023
        J=J+1;                                                                01730023
        END;                                                                  01740023
  E3:   ARY15(I,J,2,1)=ARY15(I,J,2,1)+TB;                                      01750023
        ARY15(I,J,2,2)=ARY15(I,J,2,2)+TM;                                      01760023
        ARY15(I,J,2,3)=ARY15(I,J,2,3)+TF;                                      01770023
        GO TO READ;                                                          01780023
/* ******************************************************************* */     01790023
/* ********************    S U M A T I O N    ****************** */            01800023
/* ******************************************************************* */     01810023
  SUM:    IF MONTH2 > WK THEN GO TO READ;                                      01820023
            ARY1(I,1,2)=ARY1(I,1,2)+TB;                                        01830023
          I=2;                                                                 01840023
          DO M=1 TO 14;                                                        01850023
          IF JEAN_CIDO = HAD(M) THEN GO TO G1;                                 01860023
```

— 164 —

```
          I=I+1;                                                    01870023
          END;                                                      01880023
    G1:   ARY1(I,2,2)=ARY1(I,2,2)+TB;                               01890023
          GO TO READ;                                               01900023
/* ********************************************************** */    01910023
/* *************                              ************** */     01920023
/* *************     THE ROUTINE OF ENDFILE    ************** */    01930023
/* *************                              ************** */     01940023
/* ********************************************************** */    01950023
/* *************     READ  SUMMARY  TAPE   ***************** */     01960023
    ENDP:                                                           01970023
          READ FILE(TP11) INTO(INO);                                01980023
/* *************     SUMMARY  NUGYE        *************** */       01990023
          DO I=2 TO 16;                                             02000023
            DO J=1 TO 4;                                            02010023
              M=2*J;                                                02020023
              ARY1(I,J,2)=ARY1(I,J,1)+MOMM(I,M);                    02030023
              END;                                                  02040023
            END;                                                    02050023
          DO I= 2 TO 16;           /* **  TABLE  1  ** */           02060023
            DO J=1 TO 4;                                            02070023
                DO K=1 TO 2;                                        02080023
              ARY1(I,3,K)=ARY1(I,1,K)-ARY1(I,2,K);                  02090023
                  ARY1(1,J,K)=ARY1(1,J,K)+ARY1(1,J,K);             02100023
              END;                                                  02110023
              END;                                                  02120023
            END;                                                    02130023
    ERR:  DO I=2 TO 16;           /* **  TABLE 12  ** */            02140023
            DO J=1 TO 2;                                            02150023
              ARY12(I,J,3,1)=ARY12(I,J,1,1)-ARY12(I,J,2,1);         02160023
              END;                                                  02170023
              ARY12(I,3,1,1)=ARY12(I,1,1,1)-ARY12(I,2,1,1);         02180023
            DO J=1 TO 3;                                            02190023
                DO K=1 TO 3;                                        02200023
                  ARY12(1,J,K,1)=ARY12(1,J,K,1)+ARY12(I,J,K,1);     02210023
              END;                                                  02220023
              END;                                                  02230023
            END;                                                    02240023
            DO I=1 TO 15;              /* **  RATE ** */            02250023
              DO J=1 TO 3;                                          02260023
                DO K=1 TO 3;                                        02270023
                IF ARY1(I,4,1)=0 THEN ARY12(I,J,K,2)=0;             02280023
                        ELSE DO;                                    02290023
                ARY12(I,J,K,2)=ARY12(I,J,K,1)/ARY1(I,4,1)*100;      02300023
                ARY12(I,J,K,2)=ROUND(ARY12(I,J,K,2),1);             02310023
                        END;                                        02320023
              END;                                                  02330023
              END;                                                  02340023
            END;                                                    02350023
/* *****************  TABLE 13     *************************** */   02360023
    DO I=4 TO 36;                                                   02370023
      DO J=1 TO 2;                                                  02380023
        ARY13(I,J,5)=ARY13(I,J,1)-ARY13(I,J,4);   /* SI_DO GAN */   02390023
        DO K=1 TO  5;                                               02400023
          ARY13(I,3,K)=ARY13(I,1,K)-ARY13(I,2,K); /* SOON I_DONG */ 02410023
        END;                                                        02420023
      END;                                                          02430023
    END;                                                            02440023
      DO J=1 TO 3;                                                  02450023
        DO K=1 TO 5;                                                02460023
          ARY13(1,J,K)=ARY13(1,J,K)+ARY13(4,J,K);   /* TOTAL */     02470023
          ARY13(3,J,K)=ARY13(3,J,K)+ARY13(4,J,K);                   02480023
```

```
        ARY13(1,J,K)=ARY13(1,J,K)+ARY13(5,J,K);                              02490023
        ARY13(3,J,K)=ARY13(3,J,K)+ARY13(5,J,K);                              02500023
        ARY13(1,J,K)=ARY13(1,J,K)+ARY13(6,J,K);                              02510023
        ARY13(3,J,K)=ARY13(3,J,K)+ARY13(6,J,K);                              02520023
        ARY13(1,J,K)=ARY13(1,J,K)+ARY13(7,J,K);                              02530023
        ARY13(3,J,K)=ARY13(3,J,K)+ARY13(7,J,K);                              02540023
        ARY13(2,J,K)=ARY13(2,J,K)+ARY13(35,J,K);                             02550023
        ARY13(3,J,K)=ARY13(3,J,K)+ARY13(35,J,K);                             02560023
      END;                                                                   02570023
     END;                                                                    02580023
   DO I=9 TO 35 BY 3; L=I+2; M=I+1;                                          02590023
     DO J=1 TO 3;                                                            02600023
       DO K=1 TO 5;                                                          02610023
        ARY13(L,J,K)=ARY13(L,J,K)+ARY13(I,J,K);                              02620023
        ARY13(L,J,K)=ARY13(L,J,K)+ARY13(M,J,K);                              02630023
        ARY13(1,J,K)=ARY13(1,J,K)+ARY13(I,J,K);                              02640023
        ARY13(2,J,K)=ARY13(2,J,K)+ARY13(M,J,K);                              02650023
        ARY13(3,J,K)=ARY13(3,J,K)+ARY13(L,J,K);                              02660023
       END;                                                                  02670023
     END;                                                                    02680023
   END;                                                                      02690023
/* ****************** TABLE  15    ***************************** */          02700023
   DO I=1 TO 8;                                                              02710023
    DO J=2 TO 16;                                                            02720023
       DO L=1 TO 3;                                                          02730023
         ARY15(I,J,3,L)=ARY15(I,J,1,L)-ARY15(I,J,2,L);                       02740023
       END;                                                                  02750023
      DO K=1 TO 3;                                                           02760023
       DO L=1 TO 3;                                                          02770023
         ARY15(I,1,K,L)=ARY15(I,1,K,L)+ARY15(I,J,K,L);                       02780023
       END;                                                                  02790023
      END;                                                                   02800023
     END;                                                                    02810023
   END;                                                                      02820023
   DO I=1 TO 8;                                                              02830023
    DO J=1 TO 16;                                                            02840023
     DO L=1 TO 3;                                                            02850023
      DO K=1 TO 3;                                                           02860023
    IF ARY15(I,1,L,K)=0 THEN TRY(I,J,L,K)=0;                                 02870023
    ELSE TRY(I,J,L,K)=ARY15(I,J,L,K)/ARY15(I,1,L,K)*100+0.05;               02880023
      END;                                                                   02890023
     END;                                                                    02900023
    END;                                                                     02910023
   END;                                                                      02920023
/* ************************************************************** */         02930023
/* *************    THE  ROUTINE OF PRINT    **************** */             02940023
/* ************************************************************** */         02950023
/* ******************    TABLE-1  PRINT      **************** */             02960023
   PUT PAGE EDIT('TABLE 1          MIGRANTS BY MONTH') (COLUMN(25),A)        02970023
;                                                                            02980023
   PUT SKIP(0) EDIT(WY,WK) (COLUMN(70),F(2),X(5),F(2));                      02990023
;  PUT SKIP(3) EDIT('TOTAL IN          TOTAL OUT          NET               03000023
     POPULATION') (COLUMN(25),A);                                            03010023
   PUT SKIP(3) EDIT((4)'     MONTH      SUM') (COLUMN(20),A);               03020023
   DO I=1 TO 16;                                                            03030023
      PUT SKIP(3) EDIT(HD(I),((ARY1(I,J,K) DO K=1 TO 2) DO J=1 TO           03040023
                      4))                                                    03050023
                      (X(15),A(5),8(P'--------9'));                          03060023
   END;                                                                      03070023
/* ***************   SUMMARY OUT TAPE     ***************** */               03080023
      DO I=1 TO 16;                                                          03090023
        DO J=1 TO 4;                                                         03100023
```

— 166 —

```
        DO K=1 TO 2;                                                          03110023
          OMM(I,J,K)=ARY1(I,J,K);                                             03120023
        END;                                                                  03130023
      END;                                                                    03140023
      END;                                                                    03150023
        WRITE FILE(TPO) FROM(OUT);                                            03160023
  /* ******************** TABLE-12 PRINT      ******************** */         03170023
    PUT PAGE EDIT('TABLE 12         MIGRANTS BY PROVINCE')                    03180023
      (COLUMN(26),A);                                                         03190023
    PUT SKIP(0) EDIT(WY,WK) (COLUMN(75),F(2),X(5),F(2));                      03200023
    PUT SKIP(2) EDIT('TOTAL IN-MIGRANTS                                     T03210023
OTAL OUT-MIGRANTS          NET-MIGRATION.') (COLUMN(20),A);                   03220023
    PUT SKIP(2) EDIT('                    INTRA_PROVINCE  INTER_PROVIN        03230023
CE            INTRA_PROVINCE  INTER_PROVINCE') (COLUMN(2),A);                 03240023
    PUT SKIP(2) EDIT((7)' NUMBER  RATES') (COLUMN(6),A);                      03250023
    DO I=1 TO 16;                                                            03260023
        PUT SKIP(2) EDIT(HD(I),(((ARY12(I,J,K,L) DO L=1 TO 2) DO K=1        T003270023
3) DO J=1 TO 3))                                                             03280023
                        (A(5),7(P'-------9',P'----9V.9'),4(P'(7)Z'));         03290023
    END;                                                                      03300023
  /* ******************** TABLE 13 PRINT      ******************** */         03310023
    PUT PAGE EDIT('TABLE 13         MIGRANTS BY ALL SIS AND ALL GUNS          03320023
OF PROVINCES                 UNIT:PERSON') (COLUMN(20),A);                    03330023
    PUT SKIP(0) EDIT(WY,WK) (COLUMN(118),F(2),X(5),F(2));                     03340023
    PUT SKIP(2) EDIT('IN-MIGRANTS                    OUT-MIGRANTS             03350023
                NET-MIGRATION') (COLUMN(27),A);                              03360023
    PUT SKIP(2) EDIT((3)' TOTAL   MALE FEMALE  INTRA   INTER')               03370023
(COLUMN(20),A);                                                              03380023
    M=0; N=1;                                                                03390023
    DO I=1 TO 36;                                                            03400023
        PUT SKIP(2) EDIT(HD(N),GB(I),((ARY13(I,J,K) DO K=1 TO 5) DO J=        03410023
1 TO 3))                                                                     03420023
          (X(6),A(5),X(3),A(5),15(P'------9'));                              03430023
        M=M+1;                                                               03440023
        IF M=GUBUN(N) THEN DO;                                               03450023
        N=N+1; M=0;                                                          03460023
        END;                                                                 03470023
    END;                                                                     03480023
  /* ******************** TABLE  15        ******************** */            03490023
    DO I=1 TO 8;                                                             03500023
    PUT PAGE EDIT('TABLE 15 MIGRANTS FOR THE 8 LARGEST CITIES BY PROVI        03510023
NCE     ') (COLUMN(21),A);                                                   03520023
    PUT SKIP(0) EDIT(WY,WK) (COLUMN(80),F(2),X(5),F(2));                     03530023
    PUT SKIP(0) EDIT(TITLE(1)) (COLUMN(90),A);                               03540023
    PUT SKIP(3) EDIT('IN-MIGRANTS','OUT-MIGRANTS','NET-MIGRATION')           03550023
        (X(22),A(29),A(30),A(13));                                           03560023
    PUT SKIP(3) EDIT((3)'BOTH SEXES     MALE    FEMALE ')                    03570023
      (COLUMN(11),A);                                                        03580023
      DO J=1 TO 16;                                                          03590023
        PUT SKIP(2) EDIT(HD(J),((ARY15(I,J,K,L) DO L=1 TO 3)                 03600023
                DO K=1 TO 3))                                                03610023
          (X(3),A(7),9(P'---------9'));                                      03620023
    PUT SKIP EDIT(((TRY(I,J,K,L) DO L=1 TO 3) DO K=1 TO 3))                  03630023
              (X(10),9(P'------9V.9',X(1)));                                 03640023
      PUT SKIP(0) EDIT((9)'  (        )')                                    03650023
                    (X(10),9 A);                                            03660023
      END;                                                                  03670023
    END;                                                                     03680023
    CLOSE FILE(TPI),FILE(TPI1),FILE(TPO);                                    03690023
    END SVO62;                                                              03700023
/*                                                                           03710023
//GO.SYSPRINT DD SYSOUT=*                                                    03720023
```

```
//GO.TP.I DD UNIT=SYSDA,DSN=A49.VO.WED(MAXA),VOL=SER=BOS242,        03730023
//              DISP=(OLD,KEEP)                                      03740023
//GO.TPI1  DD UNIT=DISK,DSN=A49.VO.TT,VOL=SER=BOS242,DISP=(OLD,KEEP), 03750023
//            DCB=(BLKSIZE=1280,LRECL=1280,RECFM=FB),                03760023
//            SPACE=(1280,1)                                         03770023
//GO.TPO    DD UNIT=DISK,DSN=A49.VO.T1,DISP=(OLD,KEEP),VOL=SER=BOS242, 03780023
//          DCB=(BLKSIZE=1280,LRECL=1280,RECFM=FB),                  03790023
//            SPACE=(1280,1)                                         03800023
//GO.SYSOUT  DD  SYSOUT=*                                            03810023
//                                                                   03820023
```

```
//A49VOWTQ JOB CLASS=A,MSGCLASS=X,NOTIFY=A49,USER=A49               00010002
//STEP1 EXEC PLIFCLG                                               00020002
//*PLI.SYSPRINT DD SYSOUT=*                                        00030002
//PLI.SYSIN DD *    * 1 YEAR TOTAL-TABLE *                         00040002
* PROCESS GS,NEST,OPT(2),OFFSET;                                   00050002
   /* THIS PROGRAM IS MADE BY LEE JEONG SOOK */                    00060003
      SVOG2: PROC OPTIONS(MAIN);                                   00070002
      DCL  TPI FILE RECORD INPUT;                                  00080002
      DCL  1 IN  CHAR(129);                                        00090002
      DCL  1 IN2  DEF IN,           /* THE SECOND STYLE */         00100002
           2 YEAR2     PIC '99',                                   00110002
           2 MONTH2    PIC '99',                                   00120002
           2 HAENG1    PIC '(4)9',                                 00130002
           2 NON PIC  '99',                                        00140002
           2 JEAN1     PIC '(4)9',                                 00150002
           2 TB      PIC '(6)9',                                   00160002
           2 TM      PIC '(6)9',                                   00170002
           2 TF      PIC '(6)9',                                   00180002
           2 F22       CHAR(96),                                   00190002
           2 ID2       CHAR(1);                                    00200002
      DCL  ARY13(36,3,5) FIXED DEC(11) INIT((540)0); /* TAB13 ARRAY*/ 00210002
      DCL  ARY12(16,3,3,2) FIXED DEC(14,3) INIT((288)0); /* TABLE-12 */ 00220002
      DCL  ARY15(8,16,3,3) FIXED DEC(11)  INIT((1152)0); /* TABLE-15 */ 00230002
      /*   ***********************     */                         00240002
      /*   *  ARY1  TOTAL INGUSU *     */                         00250002
      /*   ***********************     */                         00260002
      DCL  ARY1(16) PIC '(9)9' INIT(40726316,9840100,3543935,     00270002
      2031774,1403182,876589,4863276,1752083,1412272,             00280002
      2863296,2220259,2853601,3062094,3541848,462547,0);          00290002
      DCL  HAENG_CIDO   PIC '99' DEF IN  POSITION(5),             00300002
           HAENG_GUN   PIC '99' DEF IN POSITION(7),              00310002
           JEAN_CIDO   PIC '99'  DEF IN POSITION(11),            00320002
           JEAN_GUN   PIC '99' DEF IN  POSITION(13);             00330002
      DCL  HADD CHAR(80) INIT('WHOLESEOULBUSANDAEGUINCHEKWANJGYEGIGWEONC 00340002
HBUGCHNAMJEBUGJENAMGYBUGGYNAMJE_JUOTHER');                        00350002
      DCL  HD(16) CHAR(5) DEF HADD;                                00360002
      DCL  TRY(8,16,3,3) FIXED DEC(7,3);                          00370002
      DCL  HAD(15) PIC '99' INIT(11,21,22,23,24,31,32,33,34,35,36,37,38, 00380002
39,40);                                                           00390002
      DCL  HAENG_GUBUN(6)  PIC '(4)9' INIT(2211,2311,2400,3400,3511,3811 00400002
);                                                                00410002
      DCL  JEAN_GUBUN(8) PIC '(4)9' INIT(1101,2101,2201,2301,2401,3401,3 00420002
501,3801);                                                        00430002
      DCL  GUBUN(16) PIC '99' INIT(3,1,1,1,1,1,1,3,3,3,3,3,3,3,3,1); 00440002
      DCL  GBB CHAR(108) INIT('SI GUNTOTSI SI SI SI SI SI GUNTOTSI GUNTO 00450002
TSIGUNTOTSI GUNTOTSI GUNTOTSI GUNTOTSI GUNTOTSI GUNTOTSI GUNTOTGUN'); 00460002
      DCL  GB(36) CHAR(3) DEF GBB;                                00470002
      DCL  TILT CHAR(56) INIT(' SEOUL  BUSAN  DAEGUINCHEONKWANGJU DAEJE 00480002
N JEONJU  MASAN');                                                00490002
      DCL  TITLE(8) CHAR(7) DEF TILT;                             00500002
      DCL  CCD  CHAR(2);                                          00510002
      ON ENDFILE(TPI) GO TO ENDP;                                 00520002
      OPEN FILE(SYSPRINT) LINESIZE(132);                          00530002
      READ: READ FILE(TPI) INTO(IN);                              00540002
           IF NON > 28 THEN GO TO READ;                           00550002
           IF NON = 99 THEN GO TO READ;                           00560002
           IF HAENG_CIDO = 22 | HAENG_CIDO = 23 THEN HAENG_GUN = 11; 00570002
      /* ***************************************************************** */ 00580002
      /* ***************************************************************** */ 00590002
      /* **************                         **************** */ 00600002
      /* **************    THE  SECOND  STYLE    **************** */ 00610002
      /* **************                         **************** */ 00620002
```

— 169 —

```
/* ***************************************************************** */
/* ***************************************************************** */
/* ***************************************************************** */
/* *********     I N C O M E     *********************************** */
/* ***************************************************************** */
  RRR: I=2;
        DO M=1 TO 14;
        IF HAENG_CIDO = HAD(M) THEN GO TO B1;
        I=I+1;
        END;
     B1: ARY12(I,1,1,1)=ARY12(I,1,1,1)+TB; /* ADD TO INCOME,TOTAL */
/* *************     SI-GUN  COMPARISION     ********************** */
        IF I <=6 THEN K=I+2;
                ELSE IF I=16 THEN  K=36;
                    ELSE IF HAENG_GUN <31 THEN K=(I-4)*3;
                        ELSE K=(I-4)*3+1;
/* ** **************** ADD TO TABLE13 INCOME  ***************** */
        ARY13(K,1,1)=ARY13(K,1,1)+TB;
        ARY13(K,1,2)=ARY13(K,1,2)+TM;
        ARY13(K,1,3)=ARY13(K,1,3)+TF;
/* ***************************************************************** */
/* *********************     OUT     ****************************** */
/* ***************************************************************** */
        J=2;
        DO M=1 TO 14;
        IF JEAN_CIDO=HAD(M) THEN GO TO C1;
        J=J+1;
        END;
     C1: ARY12(J,2,1,1)=ARY12(J,2,1,1)+TB; /* ADD TO OUT,   TOTAL */
/* *************     SI_GUN    COMPARISON     ******************** */
        IF J<=6 THEN L=J+2;
                ELSE IF J=16 THEN L=36;
                    ELSE IF JEAN_GUN<3  THEN L=(J-4)*3;
                        ELSE L=(J-4)*3+1;
        ARY13(L,2,1)=ARY13(L,2,1)+TB;
        ARY13(L,2,2)=ARY13(L,2,2)+TM;
        ARY13(L,2,3)=ARY13(L,2,3)+TF;
/* ****************       HAENG-JEAN COMPARISON     *********** */
        IF  I=J THEN DO;
                ARY12(I,1,2,1)=ARY12(I,1,2,1)+TB;
                ARY12(I,2,2,1)=ARY12(I,2,2,1)+TB;
                ARY13(K,1,4)=ARY13(K,1,4)+TB;
                ARY13(L,2,4)=ARY13(L,2,4)+TB;
                END;
            ELSE;
/* ***************************************************************** */
/* ******************       TABULATION 15     ******************** */
/* ***************************************************************** */
        IF HAENG_CIDO = 11 THEN I=1;          /* IMCOME */
            ELSE IF HAENG_CIDO = 21 THEN I=2;
                ELSE DO;
                I=3;
                DO M=1 TO 6;
                    IF HAENG1= HAENG_GUBUN(M) THEN GO TO D1;
                    I=I+1;
                    END;
                GO TO E1;    /* GO TO OUT */
            END;
     D1: J=2;
        DO M=1 TO 14;
        IF JEAN_CIDO = HAD(M) THEN GO TO D2;
        J=J+1;
```

— 170 —

00630002
00640002
00650002
00660002
00670002
00680002
00690002
00700002
00710002
00720002
00730002
00740002
00750002
00760002
00770002
00780002
00790002
00800002
00810002
00820002
00830002
00840002
00850002
00860002
00870002
00880002
00890002
00900002
00910002
00920002
00930002
00940002
00950002
00960002
00970002
00980002
00990002
01000002
01010002
01020002
01030002
01040002
01050002
01060002
01070002
01080002
01090002
01100002
01110002
01120002
01130002
01140002
01150002
01160002
01170002
01180002
01190002
01200002
01210002
01220002
01230002
01240002

```
        END;                                                                  01250002
D2:     ARY15(I,J,1,1)=ARY15(I,J,1,1)+TB;                                      01260002
        ARY15(I,J,1,2)=ARY15(I,J,1,2)+TM;                                      01270002
        ARY15(I,J,1,3)=ARY15(I,J,1,3)+TF;                                      01280002
E1:     DO I=1 TO 8;                        /* OUT */                          01290002
        IF JEAN1=JEAN_GUBUN(I) THEN GO TO E2;                                  01300002
        END;                                                                  01310002
        GO TO READ;                                                           01320002
E2:     J=2;                                                                  01330002
        DO M=1 TO 14;                                                         01340002
        IF HAENG_CIDO = HAD(M) THEN GO TO E3;                                 01350002
        J=J+1;                                                                01360002
        END;                                                                  01370002
E3:     ARY15(I,J,2,1)=ARY15(I,J,2,1)+TB;                                      01380002
        ARY15(I,J,2,2)=ARY15(I,J,2,2)+TM;                                      01390002
        ARY15(I,J,2,3)=ARY15(I,J,2,3)+TF;                                      01400002
        GO TO READ;                                                           01410002
/* *********************************************************** */             01420002
/* ********************* S U M A T I O N   ****************** */               01430002
/* *********************************************************** */             01440002
/* *********************************************************** */             01450002
/* ***************                          ************* */                  01460002
/* ***************      THE ROUTINE OF ENDFILE   ************* */              01470002
/* ***************                          ************* */                  01480002
/* *********************************************************** */             01490002
ENDP: DO I=2 TO 16;              /* ** TABLE 12  ** */                         01500002
        DO J=1 TO 2;                                                          01510002
          ARY12(I,J,3,1)=ARY12(I,J,1,1)-ARY12(I,J,2,1);                       01520002
        END;                                                                  01530002
          ARY12(I,3,1,1)=ARY12(I,1,1,1)-ARY12(I,2,1,1);                       01540002
        DO J=1 TO 3;                                                          01550002
            DO K=1 TO 3;                                                      01560002
            ARY12(1,J,K,1)=ARY12(1,J,K,1)+ARY12(I,J,K,1);                     01570002
          END;                                                                01580002
        END;                                                                  01590002
      END;                                                                    01600002
      DO I=1 TO 16;                    /* ** RATE ** */                        01610002
        DO J=1 TO 3;                                                          01620002
        DO K=1 TO 3;                                                          01630002
        IF ARY1(I)=0 THEN ARY12(I,J,K,2)=0;                                   01640002
              ELSE DO;                                                        01650002
          ARY12(I,J,K,2)=ARY12(I,J,K,1)/ARY1(I)*100;                          01660002
          ARY12(I,J,K,2)=ROUND(ARY12(I,J,K,2),1);                             01670002
          END;                                                                01680002
          END;                                                                01690002
        END;                                                                  01700002
      END;                                                                    01710002
/* ***************** TABLE 13    ***************************** */              01720002
      DO I=4 TO 36;                                                           01730002
        DO J=1 TO 2;                                                          01740002
        ARY13(I,J,5)=ARY13(I,J,1)-ARY13(I,J,4);   /* SI_DO GAN */             01750002
        END;                                                                  01760002
      END;                                                                    01770002
        DO J=1 TO 3;                                                          01780002
          DO K=1 TO 5;                                                        01790002
          ARY13(1,J,K)=ARY13(1,J,K)+ARY13(4,J,K);   /* TOTAL */               01800002
          ARY13(3,J,K)=ARY13(3,J,K)+ARY13(4,J,K);                             01810002
          ARY13(1,J,K)=ARY13(1,J,K)+ARY13(5,J,K);                             01820002
          ARY13(3,J,K)=ARY13(3,J,K)+ARY13(5,J,K);                             01830002
          ARY13(1,J,K)=ARY13(1,J,K)+ARY13(6,J,K);                             01840002
          ARY13(3,J,K)=ARY13(3,J,K)+ARY13(6,J,K);                             01850002
          ARY13(1,J,K)=ARY13(1,J,K)+ARY13(7,J,K);                             01860002
```

— 171 —

```
          ARY13(3,J,K)=ARY13(3,J,K)+ARY13(7,J,K);                            01870002
          ARY13(2,J,K)=ARY13(2,J,K)+ARY13(35,J,K);                           01880002
          ARY13(3,J,K)=ARY13(3,J,K)+ARY13(35,J,K);                           01890002
        END;                                                                 01900002
      END;                                                                   01910002
   DO I=9 TO 35 BY 3; L=I+2; M=I+1;                                          01920002
     DO J=1 TO 3;                                                            01930002
       DO K=1 TO 5;                                                          01940002
         ARY13(L,J,K)=ARY13(L,J,K)+ARY13(I,J,K);                            01950002
         ARY13(L,J,K)=ARY13(L,J,K)+ARY13(M,J,K);                            01960002
         ARY13(1,J,K)=ARY13(1,J,K)+ARY13(I,J,K);                            01970002
         ARY13(2,J,K)=ARY13(2,J,K)+ARY13(M,J,K);                            01980002
         ARY13(3,J,K)=ARY13(3,J,K)+ARY13(L,J,K);                            01990002
       END;                                                                  02000002
     END;                                                                    02010002
   END;                                                                      02020002
   DO I=1 TO 36;                            /* SOON 1 - DONG */              02030002
   DO K=1 TO 5;                                                              02040002
     ARY13(I,3,K)=ARY13(I,1,K)-ARY13(I,2,K);                                02050002
   END;                                                                      02060002
   END;                                                                      02070002
/* ****************** TABLE  15   ************************** */              02080002
   DO I=1 TO 8;                                                              02090002
     DO J=2 TO 16;                                                           02100002
       DO L=1 TO 3;                                                          02110002
         ARY15(I,J,3,L)=ARY15(I,J,1,L)-ARY15(I,J,2,L);                      02120002
       END;                                                                  02130002
       DO K=1 TO 3;                                                          02140002
         DO L=1 TO 3;                                                        02150002
           ARY15(I,1,K,L)=ARY15(I,1,K,L)+ARY15(I,J,K,L);                    02160002
         END;                                                                02170002
       END;                                                                  02180002
     END;                                                                    02190002
   END;                                                                      02200002
   DO I=1 TO 8;                                                              02210002
     DO J=1 TO 16;                                                           02220002
       DO L=1 TO 3;                                                          02230002
         DO K=1 TO 3;                                                        02240002
   IF ARY15(I,1,L,K)=0 THEN TRY(I,J,L,K)=0;                                 02250002
   ELSE TRY(I,J,L,K)=ARY15(I,J,L,K)/ARY15(I,1,L,K)*100+0.05;               02260002
       END;                                                                  02270002
       END;                                                                  02280002
     END;                                                                    02290002
   END;                                                                      02300002
   /* ******************************************************** */           02310002
   /* ************** THE  ROUTINE OF  PRINT  ************** */              02320002
   /* ******************************************************** */           02330002
   /* *************** TABLE-12  PRINT       ************** */               02340002
     PUT PAGE EDIT('TABLE 12          MIGRANTS BY PROVINCE (TOTAL)')         02350002
              (COLUMN(26),A);                                                02360002
     PUT SKIP(2) EDIT('TOTAL IN-MIGRANTS                                  T 02370002
OTAL OUT-MIGRANTS                          NET-MIGRATION')                   02380002
(COLUMN(20),A);                                                             02390002
     PUT SKIP(2) EDIT('                   INTRA_PROVINCE        INTER-P      02400002
ROVINCE                 INTRA_PROVINCE     INTER-PROVINCE')                  02410002
(COL(2),A);                                                                 02420002
     PUT SKIP(2) EDIT((7)'  NUMBER  RATES') (COLUMN(6),A);                  02430002
     DO I=1 TO 16;                                                           02440002
       PUT SKIP(2) EDIT(HD(I),(((ARY12(I,J,K,L) DO L=1 TO 2) DO K=1       T00 02450002
3) DO J=1 TO 3))                                                            02460002
              (A(3),7(P'-----------9',P'---9V.9'),4(P'(7)Z'));             02470002
     END;                                                                    02480002
```

```
/* ****************   TABLE 13   PRINT     ****************** */      02490002
      PUT PAGE EDIT('TABLE 13          MIGRANTS BY ALL SIS AND ALL GUNS  02500002
OF PROVINCES                 UNIT:PERSON (TOTAL)')                    02510002
                    (COLUMN(20),A);                                   02520002
      PUT SKIP(2) EDIT('IN-MIGRANTS                                   02530002
         OUT-MIGRANTS') (COLUMN(27),A);                               02540002
      PUT SKIP(2) EDIT((3)'TOTAL        MALE      FEMALE      INTRA    02550002
INTER') (COL(19),A);                                                 02560002
      M=0; N=1;                                                       02570002
      DO I=1 TO 36;                                                   02580002
         PUT SKIP(2) EDIT(HD(N),GB(I),((ARY13(I,J,K) DO K=1 TO 5) DO J=  02590002
1 TO 2))                                                             02600002
           (X(1),A(5),X(1),A(5),10(P'----------9'));                 02610002
         M=M+1;                                                       02620002
         IF M=GUBUN(N) THEN DO;                                       02630002
            N=N+1; M=0;                                               02640002
            END;                                                      02650002
      END;                                                            02660002
      PUT SKIP(2) EDIT('NET-MIGRATION') (COL(27),A);                 02670002
      PUT SKIP(2) EDIT((3)'TOTAL        MALE      FEMALE   INTRA      02680002
INTER') (COL(19),A);                                                 02690002
      M=0;    N=1;                                                    02700002
      DO I=1 TO 36;                                                   02710002
         PUT SKIP(2) EDIT(HD(N),GB(I),((ARY13(I,J,K) DO K=1 TO 5) DO  J02720002
=3 TO 3))                                                            02730002
           (X(1),A(5),X(1),A(5),15(P'----------9'));                 02740002
         M=M+1;                                                       02750002
         IF M=GUBUN(N) THEN DO;                                       02760002
            N=N+1;  M=0;                                              02770002
            END;                                                      02780002
         END;                                                         02790002
/* *******************   TABLE   15         ********************** */  02800002
      DO I=1 TO 8;                                                    02810002
      PUT PAGE EDIT('TABLE 15 MIGRANTS FOR THE 8 LARGEST CITIES BY PROVI 02820002
NCE    (TOTAL)  ') (COLUMN(21),A);                                   02830002
      PUT SKIP(0) EDIT(TITLE(I)) (COLUMN(90),A);                     02840002
      PUT SKIP(3) EDIT('IN-MIGRANTS','OUT-MIGRANTS','NET-MIGRATION')  02850002
           (X(22),A(29),A(40),A(13));                                02860002
      PUT SKIP(3) EDIT((3)' BOTH SEXES       MALE      FEMALE ')     02870002
      (COLUMN(12),A);                                                02880002
         DO J=1 TO 16;                                               02890002
            PUT SKIP(2) EDIT(HD(J),((ARY15(I,J,K,L) DO L=1 TO 3)     02900002
                      DO K=1 TO 3))                                  02910002
             (X(3),A(7),9(P'----------9'));                         02920002
      PUT SKIP EDIT(((TRY(I,J,K,L) DO L=1 TO 3) DO K=1 TO 3))       02930002
                  (X(10),9(P'--------9V.9',X(1)));                  02940002
         PUT SKIP(0) EDIT((9)'(         )  ')                       02950002
                      (X(12),9 A);                                  02960002
         END;                                                        02970002
      END;                                                           02980002
      CLOSE FILE(TPI);                                               02990002
      END SV062;                                                     03000002
/*                                                                   03010002
//GO.SYSPRINT DD SYSOUT=*                                            03020002
//GO.TPI DD UNIT=DISK,DSN=A49.VO.WEGTOT,VOL=SER=BOS456,              03030002
//          DISP=(OLD,KEEP)                                          03040002
//GO.SYSOUT  DD  SYSOUT=*                                            03050002
/*                                                                   03060002
//                                                                   03070002
```

A49 VOWMX

— MERGE —
(월별, 연간)

```
A49,87.066,09:43:25,A49.PROGRAM.LIBRARY(VOMERGE)

//A49VOUMM JOB CLASS=A,MSGCLASS=X,NOTIFY=A49                          00010091
//SORT EXEC PGM=ICEMAN                                               00020091
//SYSOUT  DD  SYSOUT=*                                               00030091
//SYSPRINT  DD SYSOUT=*                                              00040091
//SORTINO1 DD  UNIT=SYSDA,DSN=A49.VO.WEG(DE861),DISP=SHR,            00050091
//            VOL=SER=BOS242,DCB=(RECFM=FB,LRECL=129,BLKSIZE=3225)   00060091
//SORTINO2 DD  UNIT=SYSDA,DSN=A49.VO.WEG(DE862),DISP=SHR,            00070091
//            VOL=SER=BOS242,DCB=(RECFM=FB,LRECL=129,BLKSIZE=3225)   00080091
//SORTOUT  DD  UNIT=SYSDA,DSN=A49.VO.WED(MAXA),VOL=SER=BOS242,       00090091
//            DISP=SHR,DCB=(RECFM=FB,LRECL=129,BLKSIZE=3225)         00100091
//SYSIN  DD  *                                                       00110091
  MERGE FIELDS=(129,1,A),FORMAT=CH                                   00120091
/*                                                                   00130091
//                                                                   00140091
```

```
//A49VOUMX JOB CLASS=A,MSGCLASS=X,NOTIFY=A49,USER=A49,PASSWORD=LJS       00010045
//SORT EXEC PGM=ICEMAN,REGION=4096K                                     00020045
//PLI.SYSPRINT DD SYSOUT=*                                              00030045
//SYSOUT   DD  SYSOUT=*                                                 00040045
//SYSPRINT  DD SYSOUT=*                                                 00050045
//SORTIN01 DD  UNIT=DISK,DSN=A49.VO.WEG(JA861),DISP=SHR,                00060045
//              VOL=SER=BOS242,DCB=(RECFM=FB,LRECL=129,BLKSIZE=3225)    00070045
//SORTIN02 DD  UNIT=DISK,DSN=A49.VO.WEG(FE861),DISP=SHR,                00080045
//              VOL=SER=BOS242,DCB=(RECFM=FB,LRECL=129,BLKSIZE=3225)    00090045
//SORTIN03 DD  UNIT=DISK,DSN=A49.VO.WEG(MA861),DISP=SHR,                00100045
//              VOL=SER=BOS242,DCB=(RECFM=FB,LRECL=129,BLKSIZE=3225)    00110045
//SORTIN04 DD  UNIT=DISK,DSN=A49.VO.WEG(AP861),DISP=SHR,                00120045
//              VOL=SER=BOS242,DCB=(RECFM=FB,LRECL=129,BLKSIZE=3225)    00130045
//SORTIN05 DD  UNIT=DISK,DSN=A49.VO.WEG(MY861),DISP=SHR,                00140045
//              VOL=SER=BOS242,DCB=(RECFM=FB,LRECL=129,BLKSIZE=3225)    00150045
//SORTIN06 DD  UNIT=DISK,DSN=A49.VO.WEG(JN861),DISP=SHR,                00160045
//              VOL=SER=BOS242,DCB=(RECFM=FB,LRECL=129,BLKSIZE=3225)    00170045
//SORTIN07 DD  UNIT=DISK,DSN=A49.VO.WEG(JL861),DISP=SHR,                00180045
//              VOL=SER=BOS242,DCB=(RECFM=FB,LRECL=129,BLKSIZE=3225)    00190045
//SORTIN08 DD  UNIT=DISK,DSN=A49.VO.WEG(AU861),DISP=SHR,                00200045
//              VOL=SER=BOS242,DCB=(RECFM=FB,LRECL=129,BLKSIZE=3225)    00210045
//SORTIN09 DD  UNIT=DISK,DSN=A49.VO.WEG(SE861),DISP=SHR,                00220045
//              VOL=SER=BOS242,DCB=(RECFM=FB,LRECL=129,BLKSIZE=3225)    00230045
//SORTIN10 DD  UNIT=DISK,DSN=A49.VO.WEG(OC861),DISP=SHR,                00240045
//              VOL=SER=BOS242,DCB=(RECFM=FB,LRECL=129,BLKSIZE=3225)    00250045
//SORTIN11 DD  UNIT=DISK,DSN=A49.VO.WEG(NO861),DISP=SHR,                00260045
//              VOL=SER=BOS242,DCB=(RECFM=FB,LRECL=129,BLKSIZE=3225)    00270045
//SORTIN12 DD  UNIT=DISK,DSN=A49.VO.WEG(DE861),DISP=SHR,                00280045
//              VOL=SER=BOS242,DCB=(RECFM=FB,LRECL=129,BLKSIZE=3225)    00290045
//SORTOUT  DD  UNIT=DISK,DSN=A49.PC.WEG1,VOL=SER=BOS456,                00300045
//              DISP=(NEW,KEEP),DCB=(RECFM=FB,LRECL=129,BLKSIZE=3225),  00310045
//              SPACE=(CYL,(50,4),RLSE)                                 00320045
//SYSIN   DD  *                                                         00330045
  MERGE FIELDS=(1,2,A,3,2,A),FORMAT=CH                                  00340045
/*                                                                      00350045
//                                                                      00360045
```

A49VOWBK

— BACK UP —

```
//A49VOWBK JOB CLASS=F,MSGCLASS=X,USER=A49                    00010012
//STEP1   EXEC PGM=IEBCOPY      * SAM-FILE - BACK UP*         00020012
//SYSPRINT DD SYSOUT=*                                        00030012
//DISK     DD DSN=A49.VO.WEG,DISP=(OLD,KEEP),                 00040012
//            UNIT=DISK,VOL=SER=BOS242                        00050012
//TAPE     DD DSN=BACK53,DISP=(NEW,KEEP),UNIT=TAPE,VOL=SER=PRIVAT,  00060012
//            DCB=(LRECL=129,RECFM=FB,BLKSIZE=3225)           00070012
//SYSUT3    DD   DSN=&&TEMPA,UNIT=DISK,                       00080012
//            SPACE=(80,(300,100))                            00090012
//SYSUT4    DD   DSN=&&TEMPB,UNIT=DISK,                       00100012
//            SPACE=(80,(300,100))                            00110012
//SYSIN     DD *                                              00120012
 COPY INDD=DISK,OUTDD=TAPE                                    00130012
/*                                                            00140012
//                                                            00150012
```

A 49 VOWLA

LOAD

```
//A49VOWLA JOB CLASS=A,MSGCLASS=X                               00010022
//STEP1   EXEC PGM=IEBCOPY,REGION=1024K,PARM='LOAD'            00020022
//SYSPRINT DD SYSOUT=*                                          00030022
//IN    DD DSN=HYUJI,UNIT=TAPE,VOL=SER=TN2877,                  00040022
//         DISP=(OLD,KEEP),LABEL=(2,BLP)                        00050022
//*        DCB=(LRECL=129,BLKSIZE=3225,RECFM=FB)                00060022
//OUT   DD DSN=A49.VO.WEG,UNIT=DISK,VOL=SER=BOS242,             00070022
//         DISP=(OLD,KEEP),SPACE=(CYL,(25,2,20)),               00080022
//         DCB=(LRECL=129,BLKSIZE=3225,RECFM=FB,DSORG=PO)       00090022
//SYSUT3    DD UNIT=DISK,SPACE=(TRK,(1,1))                      00100022
//SYSUT4    DD UNIT=DISK,SPACE=(TRK,(1,1))                      00110022
//SYSIN    DD *                                                 00120022
 COPY      INDD=IN,OUTDD=OUT                                    00130022
/*                                                              00140022
//                                                              00150022
```

결 과 표 양 식

1. 1986년   월 인구이동

	총 전 입		총 전 출		전출입초과		월 말 인 구
	월 계	누 계	월 계	누 계	월 계	누 계	
전 국							
서 울							
부 산							
대 구							
인 천							
광 주							
경 기							
강 원							
충 북							
충 남							
전 북							
전 남							
경 북							
경 남							
제 주							
국외기타							

2. 시도별 인구이동 (전년대비)

단위 : 명

시도	월별	월			누 계			
		'86	'85	증감 수 율	'86	'85	대 전 년 수 율	
전 국	전 입							
	전 출							
	초 과							
서 울	전 입							
	전 출							
	초 과							
부 산	전 입							
	전 출							
	초 과							
대 구	전 입							
	전 출							
	초 과							
인 천	전 입							
	전 출							
	초 과							
광 주	전 입							
	전 출							
	초 과							
경 기	전 입							
	전 출							
	초 과							
강 원	전 입							
	전 출							
	초 과							
충 북	전 입							
	전 출							
	초 과							
충 남	전 입							
	전 출							
	초 과							
전 북	전 입							
	전 출							
	초 과							
전 남	전 입							
	전 출							
	초 과							
경 북	전 입							
	전 출							
	초 과							
경 남	전 입							
	전 출							
	초 과							
제 주	전 입							
	전 출							
	초 과							
국 외 및 기 타	전 입							
	전 출							
	초 과							

4. 주요도시의 시도별 인구이동(월별)

단위 : 명

	서 울		부 산		대 구		인 천		광 주		대 전		전 주		마 산	
	전입	전출	전입	전출	전입	전출	전입	전출	전입	전출	전입	전출	전입	전출	전입	전출
총 수																
서 울																
부 산																
대 구																
인 천																
광 주																
경 기																
강 원																
충 북																
충 남																
전 북																
전 남																
경 북																
경 남																
제 주																
국외 기타																

5. 주요도시의 인구이동

<div align="right">단위 : 명</div>

| | 시내이동 | | 타 지 역 인 구 이 동 | | | | | |
| | | | 전 입 | | 전 출 | | 순 이 동 | |
	수	구성비	수	구성비	수	구성비	수	구성비
전 국								
8 대 도 시 합 계								
서 울								
부 산								
대 구								
인 천								
광 주								
대 전								
전 주								
마 산								

6. 8대도시의 전출입

시도	구분	월			누 계		
		'86	'85	증 감	'86	'85	대전년증감율
총수	전 입						
	전 출						
	초 과						
서울	전 입						
	전 출						
	초 과						
부산	전 입						
	전 출						
	초 과						
대구	전 입						
	전 출						
	초 과						
인천	전 입						
	전 출						
	초 과						
광주	전 입						
	전 출						
	초 과						
대전	전 입						
	전 출						
	초 과						
전주	전 입						
	전 출						
	초 과						
마산	전 입						
	전 출						
	초 과						

7. 사유별전입

	월			누 계		
	'86	'85	증 감	'86	'85	대 전 년
총 가 구 수						
직 업						
호 적						
학 업						
가 옥 이 동						
기 타						

8. 전입 사유별 인구이동

단위 : 명

	총 전 입						시 도 내 전 입						시 도 간 전 입					
	총가구	작업	호적	학업	가옥이동	기타	총가구	작업	호적	학업	가옥이동	기타	총가구	작업	호적	학업	가옥이동	기타
전 국																		
서 울																		
부 산																		
대 구																		
인 천																		
광 주																		
경 기																		
강 원																		
충 북																		
충 남																		
전 북																		
전 남																		
경 북																		
경 남																		
제 주																		

9. 전출사유별 인구이동

단위 : 명

	총 전 출						시 도 내 전 출						시 도 간 전 출					
	총가구	작업	호적	학업	가옥이동	기타	총가구	작업	호적	학업	가옥이동	기타	총가구	작업	호적	학업	가옥이동	기타
전 국																		
서 울																		
부 산																		
대 구																		
인 천																		
광 주																		
경 기																		
강 원																		
충 북																		
충 남																		
전 북																		
전 남																		
경 북																		
경 남																		
제 주																		
국외·기타																		

10. 시도 및 성별 전입인구

단위 : 명

구분\시도	총			전입인구 시도내			시도간		
		남	여 성비		남	여 성비		남	여 성비
전 국									
서 울									
부 산									
대 구									
인 천									
광 주									
경 기									
강 원									
충 북									
충 남									
전 북									
전 남									
경 북									
경 남									
제 주									

11. 시도별 전입인구 (전년대비)

구분 / 시도	총				전 입 시 도 내				시 도 간			
	1986	1985	증감	증감율	1986	1985	증감	증감율	1986	1985	증감	증감율
전 국												
시 부												
군 부												
서 울												
부 산												
대 구												
인 천												
광 주												
경 기												
시 부												
군 부												
강 원												
시 부												
군 부												
충 북												
시 부												
군 부												
충 남												
시 부												
군 부												
전 북												
시 부												
군 부												
전 남												
시 부												
군 부												
경 북												
시 부												
군 부												
경 남												
시 부												
군 부												
제 주												
시 부												
군 부												

12. 시도별 인구이동

구분 시도	총		전		입		총		전		출		순 이 동	
			시 도 내		시 도 간				시 도 내		시 도 간			
	수	율	수	율	수	율	수	율	수	율	수	율	수	율
전 국														
서 울														
부 산														
대 구														
인 천														
광 주														
경 기														
강 원														
충 북														
충 남														
전 북														
전 남														
경 북														
경 남														
제 주														
국외·기타														

13. 시도의 시부 군부별 인구이동(월별)

단위 : 명

시도	구분	전입					전출					순이동				
		총수	남	여	시도내	시도간	총수	남	여	시도내	시도간	총수	남	여	시도내	시도간
전 국	시															
	군															
	계															
서 울	시															
부 산	사															
대 구	시															
인 천	시															
광 주	시															
경 기	시															
	군															
	계															
강 원	시															
	군															
	계															
충 북	시															
	군															
	계															
충 남	시															
	군															
	계															
전 북	시															
	군															
	계															
전 남	시															
	군															
	계															
경 북	시															
	군															
	계															
경 남	시															
	군															
	계															
제 주	시															
	군															
	계															
국외·기타	시															
	군															
	계															

14. 전입지·전출지별 총인구이동 (월별)

전입지＼전출지	전국	서울	부산	대구	인천	광주	경기	강원	충북	충남	전북	전남	경북	경남	제주	국외기타
이동수 전국																
서울																
부산																
대구																
인천																
광주																
경기																
강원																
충북																
충남																
전북																
전남																
경북																
경남																
제주																
구성비 (전입) 전국																
서울																
부산																
대구																
인천																
광주																
경기																
강원																
충북																
충남																
전북																
전남																
경북																
경남																
제주																
구성비 (전출) 전국																
서울																
부산																
대구																
인천																
광주																
경기																
강원																
충북																
충남																
전북																
전남																
경북																
경남																
제주																

16. 시부 군부별 총 인구이동

전출지＼전입지	전국 시／군	서울	부산	대구	인천	광주	경기 시／군	강원 시／군	충북 시／군	충남 시／군	전북 시／군	전남 시／군	경북 시／군	경남 시／군	제주 시／군	국외기타 시／군
전국 계／시／군																
서울																
부산																
대구																
인천																
광주																
경기 계／시／군																
강원 계／시／군																
충북 계／시／군																
충남 계／시／군																
전북 계／시／군																
전남 계／시／군																
경북 계／시／군																
경남 계／시／군																
제주 계／시／군																

조 사 표 양 식

18. 시도별 시부·군부간 이동구간 (총수 월별)

시 도	전 입				전 출				순 이 동			
		시 부	군 부	국외기타		시 부	군 부	국외기타		시 부	군 부	국외기타
전 국												
시 부												
군 부												
서 울												
부 산												
대 구												
인 천												
광 주												
경 기												
시 부												
군 부												
강 원												
시 부												
군 부												
충 북												
시 부												
군 부												
충 남												
시 부												
군 부												
전 북												
시 부												
군 부												
전 남												
시 부												
군 부												
경 북												
시 부												
군 부												
경 남												
시 부												
군 부												
제 주												
시 부												
군 부												
국외기타												

인 구 이 동 보 고 서

구분 / 구시군	전월말인구수	전입 (A)			전출 (B)			전입 (C)				전출 (D)				직권처리		출생사망		증 감		금월말인구수
부호		총수	남	여	총수	남	여	도내	도외	국외 기타		도내	도외	국외 기타		등록	말소	출생	사망	증	감	
시																						
군																						
계																						
합계																						
비고																						

(제1호 서식 B)

구분 / 구시군	전월말인구수	전입 (A)			전출 (B)			전입 (C)				전출 (D)				직권처리		출생사망		증 감		금월말인구수
		총수	남	여	총수	남	여	도내	도외	국외 기타		도내	도외	국외 기타		등록	말소	출생	사망	증	감	

(제1호 서식 C)

구분 / 동·읍·면	전월말인구수	전입 (A)			전출 (B)			전입 (C)				전출 (D)				직권처리		출생사망		증 감		금월말인구수
		총수	남	여	총수	남	여	도내	도외	국외 기타		도내	도외	국외 기타		등록	말소	출생	사망	증	감	

(제2호 서식)

인 구 이 동 보 고 서

_____ 귀하

년   월분

시도		구·시·군		읍·면·동	

부 호	구분 전거주지	총 전 입 인 구			가 구 별 주 된 전 입 사 유						
		총 수	남	여	총가구수	직 업	호 적	학 업	가옥이동	기 타	
011101	서 울										
022101	부 산										
032201	대 구										
042301	인 천										
052401	광 주										
063102	경 시 부										
073103	기 군 부										
083202	강 시 부										
093203	원 군 부										
103302	충 시 부										
113303	북 군 부										
123401	충 대전시										
133402	남 시 부										
143403	군 부										
153501	전 전주시										
163502	북 시 부										
173503	군 부										
183602	전 시 부										
193603	남 군 부										
203702	경 시 부										
213703	북 군 부										
223801	경 마산시										
233802	남 시 부										
243803	군 부										
253902	제 시 부										
263903	주 군 부										
274004	국 외										
284105	기 타										
총 수	시 부										
	군 부										
	국외및 기타										
	총 수										